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JUNE • 1936

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# AMERICAN GAS ASSOCIATION MONTHLY

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# AMERICAN GAS ASSOCIATION MONTHLY

*James M. Beall, Editor*

## Dallas Convention Shows Natural Gas Forging Ahead

**E**XCEEDING last year's attendance by several hundred and marked by vigorous discussions of important problems facing the industry, the annual convention of the Natural Gas Department fully reflected the progress made by the industry during the past year. Meeting in Dallas, Texas, May 5-8, in the heart of one of the greatest natural gas producing areas of the country, the 1200 delegates and their guests who attended found on all hands evidences of the development which the industry has brought.

The program contained a variety of subjects uppermost in the minds of natural gas men, but the main themes were the improvement of gas service through improved appliances, greater utilization of gas, advertising and conservation.

High tribute was paid to the local gas men from the Dallas Gas Company and the Lone Star Gas System, who in their capacity of hosts, more than lived up to natural gas traditions of hospitality to visiting delegates.

The first session Tuesday afternoon was opened by William Moeller, Jr., chairman of the Natural Gas Department. Following the Invocation by Dr. C. C. Selecman, president, Southern Methodist University, Dallas, Texas, R. G. Soper, president of the Dallas Gas Company, introduced J. F. Leopold, supervisor of public utilities, Dallas, Texas, who welcomed the delegates to the city.

Mr. Moeller, in his opening address,

stated that the first obligation of the industry is to do all in its power to conserve the known supply of natural gas. "Scientific research carried on by our Gas Well Flow Committee indicates the obligation is recognized," he said. "Within the industry, waste has been reduced. It is the situation outside of our direct control which concerns us most."

Unnecessary waste of natural gas in the oil industry was pointed out by Mr. Moeller as a problem to be solved. He also praised the large gas transportation systems as being responsible for the continuous growth and development of the industry and stressed the need of combatting increasing competition.

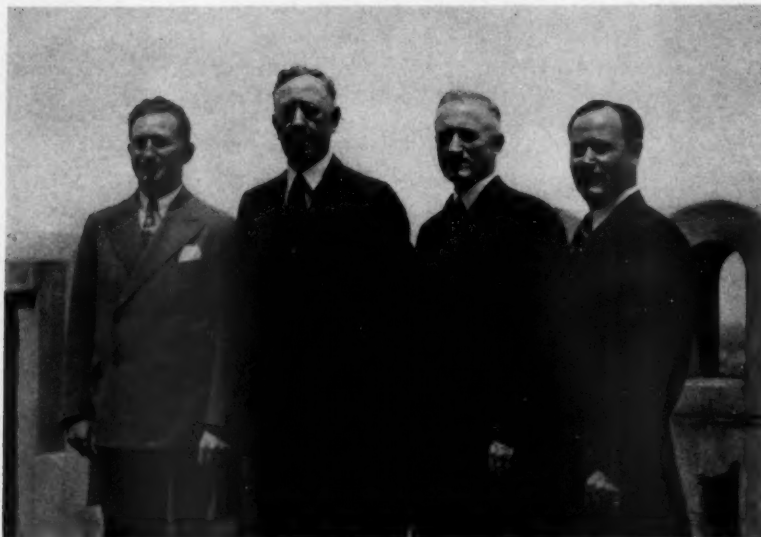


*Chairman Moeller*

Attention was called by Mr. Moeller to the similar competitive situation in the natural and manufactured gas branches of the industry. "While natural gas production and transportation technology differs from manufactured gas technology, and while industrial sales and utilization problems for natural gas differ somewhat from those for manufactured gas, the distribution, commercial and domestic sales problems are quite common to both branches.

"The manufactured gas branch of the gas industry has had many years' experience in these common problems; particularly has it faced a competitive market situation for many years, and the experience which it gained should be of great value to natural gas men who are now approaching similar competitive situations. All this suggests that natural gas companies have much to gain by a more aggressive cooperation in the distribution, commercial and industrial activities of the American Gas Association, and this is particularly urged."

General aims for the convention and the industry were pointed out by L. B. Denning, president of the American Gas Association, in what was something of a keynote address for the convention. He referred to the work of the A. G. A. which he said has grown steadily in importance and today has before it the solution of a number of grave problems. He mentioned the A. G. A. Testing Laboratory and the importance of the Approval Seal.



*Association officers at the Natural Gas Convention in Dallas. Left to right: William Moeller, Jr., chairman of the Natural Gas Department; L. B. Denning, president of the Association; Alexander Forward, managing director; A. E. Higgins, secretary of the department*

In addition to the work of the Laboratory, Mr. Denning referred to the national advertising campaign "to meet attacks of our competitors," stating that plans for this campaign were in the hands of capable men and that in a short time the industry would be reading advertisements "bringing to the attention of the people of the nation what they already know but what has not been sufficiently impressed upon them, that gas is the most available and usable heat energy, is the best fuel, and makes the most modern kitchen, notwithstanding claims of other fuels."

The Association, he said, is still continuing "a friendly cooperation with governmental authorities to the end that problems confronting our industry may be worked out to a friendly solution."

"I wonder if we ourselves realize the importance of this industry," he asked. "We are accustomed to thinking of the electric industry as being bigger than we are. Yet in 1935 the total number of kilowatt hours delivered by all electric plants in the United States—private, governmentally and municipally owned—was 78 billion KVA. Natural gas used in theoretical heat energy represented six times the total amount of KVA put out by the whole electric industry, and measured by heat efficiency represented

two and one-fifth times the electrical output."

Of the industry's future he said:

"I have become an ardent advocate of the human side of our industry and the importance of it. Within our own memory we have seen the radio, the automobile and other inventions that have annihilated space and time. We live closer together today than at any time in our history. Our contacts are much better. A concrete obligation has arisen to so condition ourselves that we will establish to the utmost our ability to make and hold friends. The biggest asset we can have in any community, here, California, Pennsylvania, or anywhere else is the number of friends each and all of us have and can count on. We symbolize to the average customer the organization. He doesn't think of the product we sell. He takes as a matter of course what that service means. That is what he pays for and that is our job.

"There are two ways of giving that service—we can become interested in appliances, we can render service through appliances, or we can go further and put our heart and souls, put the human element in—and make friends of—people.

"I think one of our troubles is that human beings cannot be regulated by formulas. The human element is uncer-

tain. You can devise chemical formulas, and mathematical formulas, but you cannot lay down definite formulas for human beings, because the human element may upset the whole thing.

"But we can formulate our conduct by well-established rules designed by thousands of years of experience—by giving the best we have, by showing by our attitude to our customers that we ourselves are honest, possess a high degree of integrity, and are giving the best that we have in us to this service. When we have done that, I am confident that we will solve most of our current problems."

In closing he said: "What I am trying to get across is this: It is up to all of us no matter whether we are meter readers, cashiers, production men, superintendents or presidents, to see that we conduct ourselves in our everyday life so that we carry the example all the way down the line of good citizens, giving the best possible service, maintaining our right to a fair and honest compensation for that service, having a pride in our work and in being able to say we have the most human public utility industry and are giving the very best service with it."

#### *Denning Called Real Leader*

Alexander Forward, managing director of the Association, in an address at the opening session paid tribute to the clean air and buildings of Dallas, praised the Texas Centennial, and Mr. Denning as a real leader of the industry, "a man of far-seeing vision, sound judgment and progressive frame of mind." He outlined the work of the A. G. A. Laboratories in improving standards of gas appliances and told delegates that manufacturing companies are cooperating, even to the extent of building their own laboratories in many cases.

"It is significant," he said, "that in a recent best seller written by an author who is especially critical of American industry, the statement was made that the gas industry and some few branches of the insurance industry have been the only ones who have successfully policed their own industry for the protection and benefit of the public."

That natural gas has more than held its own in the economic development of the southwest was brought out by Peter Molyneux, publisher and editor

of the *Texas Weekly* in the concluding address of the first session. During the ten-year period ending in 1934, the value of Texas natural gas consumed increased more than seven-fold and this year more than \$100,000,000 worth will be consumed at the present rate, according to Mr. Molyneaux.

#### *Government Cooperation Urged*

Cooperation with the federal government by the oil and gas industries, whose problems are interrelated, to prevent gas waste was urged by R. A. Cattell, Washington, chief engineer of the U. S. Bureau of Mines, who at Wednesday morning's session delivered an address prepared by Dr. John W. Finch, director of the Bureau, who was unable to attend the convention. Conservation of gas hinges on treatment of crude oil underground, Mr. Cattell pointed out, explaining that while great strides have been made in preventing oil waste by its industry leaders, less progress has been effected in stopping the loss of its related product, gas.

"In view of the fact that situations leading to tremendous waste are likely to arise at any time," he concluded, "cooperation between the government bureau and the oil and gas industries for needed research is essential."

The remainder of the second session was given over to reports of the Main Technical and Research Committee and its subcommittees. H. C. Cooper, chairman of the committee, presided at this session at which the following reports were given: Report of Pipe Line Flow Subcommittee by

Mr. Cooper in the absence of the chairman, H. D. Hancock, Cities Service Company, New York; Report of Gas Well Deliveries Subcommittee by the chairman, N. C. McGowen, United Gas Public Service Company, Shreveport, La.; and Report of the Gas Measurement Subcommittee by the chairman, Thomas R. Weymouth, Columbia Gas Electric Corp., Pittsburgh, Pa.

On Wednesday afternoon, two parallel sessions were held. Will C. Grant, advertising director, Lone Star Gas System, presided at the meeting sponsored by the Natural Gas Utilization and Sales Promotion Committee, and B. M. Nowery, United Gas System, Houston, Texas, at the meeting sponsored by the Natural Gas Production Committee.

Highlight of the Wednesday afternoon session on sales and utilization was an address by H. W. Geyer, Southern Counties Gas Company, Los Angeles, California, on "How Much Free Appliance Service Can Gas Companies Afford to Give?" Mr. Geyer's address is published in full in this issue of THE MONTHLY.

"The rental sales plan as to water heaters worked out so successfully last spring and summer that our organization decided to extend this plan to house heating conversion burners, large circulator space heaters and unit heaters," stated F. M. Rosenkrans, new business manager, Gas Service Company, Kansas City, Missouri, in a paper on "Reaching the Non-Home Owner for Water Heating." As a result of the rental plan for water heaters put

into effect on March 1, 1935, by the close of the year a net increase of 6730 water heaters was shown or a total sale of five times the number installed in the previous year, Mr. Rosenkrans brought out.

C. K. Patton, Dallas Gas Company, at the same session explained that the heating situation in the southwest has changed with introduction of improved types of heating appliances which not only heat the room quickly but also circulate air throughout the entire house.

Discussion in the natural gas production meeting Wednesday afternoon centered around three general topics: "Drilling and Completing Gas Wells," "Methods of Drilling Wells in Under Pressure," and "Utilization of Natural Gas in Repressuring Operations." B. M. Nowery was general chairman of the session with J. H. Dunn, production engineer of the Lone Star Gas System, and L. A. Farmer, general superintendent of distribution, Oklahoma Natural Gas Company, as co-chairmen.

#### *Utilities Not Monopolies*

Utilities have been misnamed "monopoly" for generations, M. E. Jacobs of the advertising firm of Bozell & Jacobs, Inc., Omaha, asserted at the Thursday morning session. "They are far from being monopolies when competing for the consumer's dollar," he said. "Automobiles and pianos are as much the competitors of the natural gas industry as other fuels. For this reason the gas industry must plan effectively to compete with advertising prepared by manufacturers and retail-



*One of the general sessions meetings at the convention*





*Captain Higgins*

ers who are aggressive in sales and promotion. Florists don't sell flowers; they sell sentiment. . . . The gas industry should follow their example and sell comfort, convenience, modernity, instead of price and operating costs of appliances."

The necessity of cooperation by local gas companies to back up the national advertising campaign was stressed by both Major T. J. Strickler, Kansas City Gas Company and chairman of the Committee to conduct National Advertising, and A. E. Higgins, secretary of the Natural Gas Department, who explained details of the campaign to the delegates.

"Notions about 'saturation' are ridiculous," H. H. Dinkins, Jr., commercial department of Ebasco Services, Inc. of New York, said in reading the paper prepared by H. F. Smiddy, head of his sales department. "These notions are due to the industry's failure to apply basic principles of creative selling so the customer could understand the gas industry and the service it renders. In the residential field, our customers pay for gas less than 5 per cent of their bill for food. In commercial establishments the gas bill is far less than the wage of but a single clerk." This paper is printed in full elsewhere in this issue of THE MONTHLY.

A pioneering process involving two-stage combustion of natural gas for use in the sale of large volume industrial loads was described in an important paper by George M. Parker, industrial

fuel engineer, Mississippi River Fuel Corp., St. Louis, Mo., which closed the Thursday morning general session. This process "offers the gas company the possibility of developing another market for fuel on either a firm, interruptible or off-peak basis as conditions and prices dictate. It places natural gas in a strong competitive position with producer gas and obviates the absorption in the price of natural gas of costly furnace changes necessary to obtain maximum efficiency if natural gas is applied in the orthodox manner."

#### *Parallel Sessions*

Two parallel sessions were held on Thursday afternoon, one sponsored by the Natural Gas Transmission Committee with the committee chairman, C. H. M. Burnham, Cities Service Company, New York, presiding, and the other by the Industrial Gas Conference Committee with C. H. Waring, Kansas City, Mo., presiding.

At the transmission session, the following four important papers were presented: "Practical Means of Maintaining Transmission Pipeline Efficiencies," by B. M. Lulhere, engineering supervisor, Southern California Gas Company, Los Angeles, Calif.; "Dust Proofing Compressor Stations," by R.

T. Powers, Texoma Natural Gas Company, Fritch, Texas; "Gas Hydrates" by E. G. Hammerschmidt, Texoma Natural Gas Company, Fritch, Texas; and "Brake Horse Power Analysis of Compressor Station Costs and Performance," by D. R. Croft, Ohio Fuel Gas Company, Columbus, Ohio, and George S. Young, United Fuel Gas Company, Charleston, W. Va. The paper on "Gas Hydrates" by Mr. Hammerschmidt will be reproduced in the July issue of THE MONTHLY.

A discussion of "Industrial Rates," by Frank S. Kelley, Jr., Arkansas Natural Gas Corp., Shreveport, La., opened the industrial gas meeting. Mr. Kelley outlined briefly the history of industrial rates with particular reference to rate policies during the depression.

The use of gas engine power for cooling as described in a paper by L. W. Melcher of the Waukesha Engine Co., Waukesha, Wis., attracted much attention at the industrial gas conference committee session. C. G. Calloway, the company's sales manager, read the paper in Mr. Melcher's absence. The engine, first developed for use in cooling railway refrigerator cars, is now in use on ten lines in the United States and Canada, including three southwestern rail systems. The cost for cooling a car for twenty-four

## Report of Committee on Final Resolutions

**E**VERY successful convention requires long, detailed planning. The success of this convention of the Natural Gas Department of the American Gas Association, held in Dallas, Texas, May 5 to 8, 1936, has been due in great measure to a year's tireless effort on the part of the officers of the Department, headed by William Moeller, Jr., Chairman; George E. Welker, Vice-Chairman, and A. E. Higgins, Secretary, with the cooperation of the Headquarters Staff.

We, the Committee on Final Resolutions, offer the following resolution:

**RESOLVED**, that appreciation is hereby expressed for the untiring efforts of the officers and members of the Lone Star Gas Company, the Dallas Gas Company and associated companies in making the convention a pleasant and successful experience. We commend the work and efforts of R. G. Soper, General Chairman; L. B. Denning, Jr., Chairman of the Transportation Committee; Will C. Grant, Chairman of the Publicity Committee; B. R. Newbery, Chairman of the Banquet

and Entertainment Committee; C. K. Patton, Chairman of the Attendance Committee, and Mrs. Elmer F. Schmidt, Chairman of the Women's Committee. To the Press of Dallas, the City Officials, the Hotels, the Texas Centennial Exposition, and the many other individuals and organizations of the host city whose combined activities have made this convention so enjoyable, we express our undying thanks.

**BE IT FURTHER RESOLVED**, That this Association expresses its appreciation for the continued splendid work being carried on by the Main Technical and Research Committee and its subcommittees under the able and efficient leadership of H. C. Cooper. To all members of this and other committees and subcommittees, and the Government Agencies cooperating with these committees, we express our appreciation and thanks.

Respectfully submitted,

Dallas, Texas J. D. Creveling, Chairman  
May 8, 1936 R. G. Soper



*Annual dinner of the Executive, Managing and Advisory Committees of the Natural Gas Department, held May 5 during the convention*

hours was given as \$2.10, which was claimed to be almost one-tenth the cost of ice refrigeration and cheaper than other power. An engine-driven unit is now available for commercial refrigeration and domestic air conditioning at a low operating cost which with intensive effort would enable gas companies to replace commercial electric refrigerators.

E. M. DeRemer, general supervisor of industrial sales, Southern California Gas Company, spoke on "Selling Industrial Gas," presenting in graphic form his company's policy in balancing the load curve. Mr. DeRemer pointed out that recent improvements in efficiency of industrial gas equipment tend to cut down the consumption per unit, produced, but they also raise the form value of natural gas.

The final session, Friday morning, began with a report of the Supply Men's Fund Committee by the chairman, George E. Welker, United Natural Gas Company, Oil City, Penn. Mr. Welker presented a progress report covering the condition of the fund, and the work accomplished under the scholarships provided.

Air conditioning entered the convention sessions again in an address by Edwin A. Jones of Milwaukee, Wis., at the closing meeting. Stressing the economy and efficiency of gas equipment over other types, Mr. Jones declared that wide use of air conditioning can make the south as popular in summer as it is in the winter. He pointed out that air conditioning not only offers a rich field for natural gas use but an opportunity to materially improve the

health and comfort of the people by offering relief from hay fever, sinus, and asthma.

Other papers presented at this session were: "Gas Dispatching and Operation of Transmission Pipeline Systems," by S. A. Chadwell, Ohio Fuel Gas Company, Columbus, Ohio, presented by Mr. Burnham in Mr. Chadwell's absence; "Painting and Public Relations" by E. H. Kessler, The Thresher Varnish Co., Dayton, Ohio; and "Geophysics in Oklahoma" by G. H. Westby, The Seismograph Service Co., Tulsa, Okla.

The climax of the convention entertainment was the big banquet and dance Wednesday night in the Crystal ballroom of the Baker Hotel. Under the thorough arrangements of Ben Newbery of the Lone Star Gas Company and his associates one of the largest banquets ever held was enjoyed by about 1400 guests.

The visiting ladies were taken on a trip through the Texas Centennial grounds as one of the leading features of their entertainment. They saw dozens of huge buildings being erected for the Centennial which opens June 6.

### *A. G. A. Directors Pay Tribute to the Late Judge Caster*

*Resolution adopted at meeting of Executive Board, May 21, in Atlantic City, N. J.*

**R**ESOLVED, that as the Executive Board of the American Gas Association, we record this expression of our profound sorrow at the death of our former President, fellow Director and friend, Herbert Oliver Caster, in New York City on April fifteenth, nineteen hundred and thirty-six.

Affectionately called "Judge," he had one of the most picturesque careers in the natural gas business. As a boy he rode the plains of Texas and the Indian Territory before the vast underlying storage of oil and gas had been discovered. His first connection with the gas business was as an attorney for the Kansas State Public Utilities Commission in 1914. At his death Mr. Caster was general counsel and director of the numerous oil and gas companies of the Cities Service Company of which he was a member of the Executive Committee.

His clear judgment and wise counsel, generously given for many years, materially contributed to the usefulness of the

Association and to the advancement of the gas industry. Elected as our President, October, nineteen thirty-three, he guided the affairs of the Association skillfully through a year characterized by the most momentous and besetting problems. His unswerving sense of honor, infinite patience, genial personality, kindness and liberal mindedness did much to preserve a solidarity in the gas industry during that trying period when solidarity, sane thought and skillful leadership were prime requisites.

His loss is keenly felt by the Association, its directors and officers, and each of us feels a deep sense of personal grief that the pleasant association and friendship of years with him is ended.

We extend to his family our warmest sympathy in their great affliction.

Therefore, be it Resolved, that this testimony be spread upon our minutes and a copy, suitably engrossed, be presented to the family of the deceased.



## Committee to Conduct National Gas Advertising Campaign

*T. J. Strickler**C. E. Bennett**R. B. Brown**F. D. Cadwallader**B. J. Mullaney**Henry Obermeyer**J. F. Pollard**F. J. Rutledge**J. S. Spaulding**M. L. Sperry**J. V. Strange**W. W. Winter**L. B. Denning  
ex officio**Herman Russell  
ex officio**Charles W. Person*

The above committee is composed of regional representatives of companies participating in the three-year cooperative program of national advertising in behalf of gas fuel. Two hundred and seventy companies with more than eleven million meters in active service have agreed to support the program.

T. J. Strickler, vice-president, Kansas City Gas Company, Kansas City, Mo., is chairman of the committee. W. W.

Winter, president, Atlanta Gas Light Company, Atlanta, Ga., is vice-chairman, and Charles W. Person, A. G. A. Headquarters, New York, is secretary.

Progress of this movement, including results of the committee's first meeting on April 29, was reported in a bulletin mailed to participating companies May 1. The second meeting of the committee was held at Atlantic City, N. J., May 20, too late, unfortunately, to be reported in this issue.

# How Much Free Appliance Service Can a Gas Company Afford to Give?

By H. W. GEYER

Southern Counties Gas Company of  
California, Los Angeles, Calif.

THE subject of appliance service has received much attention in the past. It will require even more attention and thought in the future. For many years gas appliances had been built and sold which differed but little from those previously used. Changes in fundamental design and construction were so rare that little original thought had to be given to servicing problems. Within the past several years, however, a number of marked innovations have appeared on the appliance market which call for a reexamination of our knowledge of theory, service practice, and policies. Some of the new designs proved to be good, others soon demonstrated the need for correction. Indications are that changes in consumer taste, increased competition between appliance manufacturers and between competing fuels, and more discriminating choice on the part of appliance dealers and merchandising gas companies will accelerate these changes in design and construction. This calls for a flexible mental attitude on our part if we are to keep abreast and even ahead of developments.

## *Service Work Increases*

The major portion of Southern California in and around Los Angeles is served by three companies: the Southern California Gas Company, the Los Angeles Gas and Electric Corporation, and the Southern Counties Gas Company. The prospect of very strong electric competition with the arrival of Boulder dam power has caused us to intensify our merchandising activities. Several hundred independent appliance dealers, working under a dealer co-operative sales program, are helping the companies cover the territory thoroughly, resulting in a large increase in the sale of new appliances. Attractive financing arrangements have enabled many consumers to purchase more expensive appliances than they owned heretofore, and have particularly in-

creased the saturation of automatically controlled gas appliances. All this activity has naturally produced a parallel rise in service work, much of it educational in nature.

The present paper is in the nature of a progress report, attempting to answer the question proposed in the title by reviewing our service problems in the light of recent experiences and previous excellent papers on this subject. It should be noted, however, that although the practices now being followed by the several gas companies in Southern California form the background for this paper, the author alone is responsible for the details contained in it; and the opinions, conclusions, and recommendations included do not necessarily reflect the views of the respective companies.

In reviewing our experiences, we have reached the conclusion that a large proportion of service problems starts with the sale of an appliance. Therefore, it seems logical to begin the detailed discussion at that point.

All appliances considered for inclusion in the merchandising program of the Southern Counties Gas Company must first have received approval from the A. G. A. Laboratory to insure compliance with accepted national standards in construction and operation. When a new appliance is presented by a manufacturer, it is sent to our laboratory for examination and testing. This does not involve duplication of A. G. A. tests, but is done for the purpose of determining its operating characteristics, maximum capacity, possible advisability of using fixed orifices, and various points of interest to the sales and service departments.

Sometimes we are asked why we do this in addition to requiring A. G. A. approval. I need only point out that A. G. A. approval signifies compliance with minimum standards of construc-

tion and operation, and that laboratory examination will often show a large difference in appliance performance. We feel that the full capacity of an appliance should be utilized, and appliances with superior operating characteristics given preference in merchandising. Many valuable details are determined during this laboratory test, and such instructions as may be found necessary are then issued to the field men.

## *Ranges and Refrigerators Examined*

When an appliance has been adopted for merchandising, and instructions covering its adjustment issued, it is ready for actual selling. By far the largest portion of our total appliance sales consists of ranges and refrigerators. These two types of appliances also require more care in their adjustment than do other appliances. Before any range or refrigerator is permitted to leave the warehouse for installation, it must first be connected to gas and completely examined and adjusted.

Gas ranges are examined for defects in porcelain enamel, defective parts, or construction. All burners are adjusted at our standard service pressure for the inputs determined by the laboratory acceptance test. On some of the newer ranges it has been found advisable to substitute fixed orifices for the adjustable type provided on top burners and separate broiler burners. Oven thermostats are checked for calibration, safety pilot valves are timed to see if their setting is within allowable limits, and all tube compression joints are soap tested for leakage.

Gas refrigerators have a fixed orifice installed in the burner and a gas pressure regulator mounted in the unit compartment. The gas pressure is then checked at the burner orifice and the box operated for at least 24 hours to check general performance and the setting of the temperature control. Whenever possible the box is delivered and installed while still cold, but during

the summer when sales mount rapidly, boxes are often set up and tested some time prior to the expected sale, then set aside pending sale and delivery.

Our experience indicates that this practice insures a minimum of time spent in the consumer's kitchen by the installation crew, since all adjustments are already made, and unexpected delays, defects, etc., are eliminated because they are taken care of before the consumer ever sees the appliance.

Our standard installation practice calls for a gas cock ahead of the union connection at each appliance. This also applies to installations made by dealers who operate under our sales program. At first this requirement applied only to automatically controlled appliances, such as clock ranges, but later experience demonstrated its value on all appliances. The extra time required during a service call to turn off gas at the meter and later turn it on, to relight all pilots, and to check other appliances (particularly annoying to the consumer during the heating season) will cost as much as the gas cock during the initial installation.

#### Follow-up Calls

Every company sale must be followed up by the salesman to insure satisfactory understanding of the appliance and its operation. On clock-controlled ranges a home service girl must also call and give instruction in the proper adjustment and usage of the automatic clock. When a family buys an oven-controlled range to replace one without oven control, a home service girl also calls and explains the setting of the control. On refrigerators, because of the delayed nature of its operation, a service man calls within 48 hours of its installation to make a final temperature check and answer such questions as the consumer may have.

Many avoidable service requests can result from lack of sufficient instruction of the buyer during and after the sale of an appliance. Service and sales departments should exchange information to see if salesmen and home service girls are doing a thorough job of educating the consumer, rather than wait until he calls for help in the form of a complaint.

Inadequate instruction on the following subjects has caused unnecessary

service calls in the past. Where applicable, these features should be carefully explained to new owners who previously did not use an appliance equipped with them:

#### 1. Gas ranges

a. Oven controls on gas ranges sold to consumers who previously did not own a range so equipped.

b. Clock-controlled ranges require detailed instruction in the setting and use of the clock.

c. Safety pilot valves which delay the flow of gas to the burner every time the burner valve is turned on.

d. Relighting of safety pilots or safety burners.

#### 2. Gas refrigerators

a. Relighting of safety burner, involving starting and stopping service calls, particularly on old style boxes which did not have a defrosting adjustment and in which defrosting involved the relighting of the safety burner. We have installed push button lighters on all old style boxes not so equipped, and educated the owners to relight the burners themselves.

b. Defrosting instructions on later models. This point must be explained to people who previously had only an ice box, which does not need defrosting.

c. Cleaning of gas burner and burner screen. We have found that many people attempting to clean their refrigerator burner will disturb the air shutter setting and leave a very poor flame adjustment. We therefore recommend that service men should not advise the consumer to clean his refrigerator burner but should request the consumer to call us. If the company policy calls for voluntary refrigerator inspection, such inspections should be made at least once each year.

When burner replacements become necessary, we use the new screenless type to replace all screen-type burners.

d. After the expiration of the warranty, any parts becoming defective must be paid for upon replacement. Many repeat calls were received from owners of boxes with defective controls who refused to pay for new controls and still insisted on proper performance.

We have attempted to work out a mutually satisfactory solution by a "Parts Replacement Agreement" adopted a little over a year ago. This agreement is offered to a consumer when the regular warranty on his refrigerator expires. Under its terms he pays us \$2 for one year, and we, in turn, agree to replace within that year, without further charge, any operating part, such as unit, gas thermostat, water control, gas burner, or pressure regulator, which may become defective. The agreement is renewable by mutual consent at the end of each year, at a charge to be determined at the time of renewal. The present \$2 figure covers the cost of parts only, determined by service records. It does not include any labor

#### "Chef" Pearson



Courtesy Blue Blaze News

*Modern gas ranges are so convenient and delightful to use that even a man now enjoys pattering around in the kitchen. W. F. Pearson, shop superintendent of the Dallas Gas Company, is no exception. Mr. Pearson takes a keen delight in proving to his friends that he is "pretty good" when it comes to preparing a meal. He is shown in the accompanying picture as he finished frying the result of a recent hunt*

or mileage, which are contributed by the company as a part of its general service.

When making any replacement of refrigerator parts, either under the terms of this agreement or, if paid for separately, we use the most modern controls available and eliminate all obsolete parts.

#### 3. Gas water heaters

a. Relighting of safety pilot on water heater. Briefly explain the action of the safety in delaying the flow of gas to the main burner until the safety has become hot.

b. If "Customer Control" burners are used, explain the proper usage and adjustment of the burner for maximum economy, and also for maximum speed, when needed.

c. Explain the thermostat setting and stress the desirability of using temperatures not exceeding the range of 130 to 140° F. for best economy and longer life of the heater. If the consumer insists on very hot water, point out to him that such excessively hot water will necessarily require more gas, which will be reflected in his bill, and that the life of the water heater may be shortened, especially where liming conditions prevail.

d. If the water heater is equipped with a high temperature gas shut-off valve, briefly explain its operation and how it can be reset if it should shut off.

#### 4. Heating appliances

These offer relatively little difficulty when newly sold. In the case of cen-



tral heating furnaces, the consumer should be definitely instructed to wait an adequate length of time before relighting the pilot in case it should go out. The purpose of this waiting period, it should be pointed out, is to permit any raw gas which may be in the appliance to vent itself normally through the vent connection and flue. Explain to the consumer that gas is lighter than air and will eliminate itself if given time.

We have found some furnaces which trap gas in their upper chambers when the pilot goes out and require an excessively long time to clear themselves. In

such cases our service men use an 8-inch hand bellows to purge the furnace before attempting to relight the pilot. This purging operation takes only two or three minutes and saves the half hour or longer waiting period which otherwise might be necessary.

#### 5. Defective parts or appliances

Means should be developed within the service organization for promptly identifying, through close supervision of reports, the cause of complaints arising from defective parts or appliances so that no repeated correction be attempted in the case of chronic structural defects. Examples of such defects which have been noted include defective frames on gas ranges and defective refrigerator cabinets.

The manufacturer or his local representative should be requested to check and correct such defects so as to eliminate them promptly, both in the field and at the source. If the gas company continues to correct such faults, additional defective appliances of that type will be sold, and the total service cost will be much greater.

In certain exceptional cases where the plant of the manufacturer is close by, it may be possible to work out some arrangement for the gas company to effect the actual replacement. Such a plan will clear up an unsatisfactory situation quickly with a minimum of inconvenience to consumers.

All dealer installations upon which we are asked to accept the contract must pass inspection by a company inspector. Printed instructions were drawn up and issued to all dealers, showing the individual points which would be covered by each inspection. At first, results were rather discouraging because of the handy men, truck drivers, and generally inferior type of personnel employed by dealers for their installation work. Service meetings between our foremen and dealers' men were held and instructions given. This is still in the developmental stage because of the reluctance of dealers to interest themselves in proper installation and service procedure, but conditions are improving. When defective parts, connections, or serious maladjustments are found on a dealer installation, the dealer is notified that acceptance of the contract will be withheld, pending correction of the defects. This serves to insure closer inspection on his part on future installations than if the gas company were to assume this duty.

Because of the close territorial relationship of the three gas companies, we have found it desirable to follow a common course in studying our routine field problem. For over two years an intercompany service committee, consisting of representatives of each company, has been meeting at least once a month to discuss and develop practical methods of servicing appliances. A uniform service code was drafted and adopted which standardizes and unifies our service so that there is now no material difference in the work done by men in each company.

While drafting this code we con-

## A. G. A. Wins Certificate of Recognition



**T**HE American Gas Association was granted a Certificate of Recognition along with a selected group of other trade associations who were honored for their achievements at the annual meeting of American Trade Association Executives held at Washington, D. C. The presentation was made by Daniel C. Roper, Secretary of Commerce, and Chairman of the Jury of Award, on April 28, at the Mayflower Hotel, Washington, D. C.

The awards were made for outstanding accomplishment in the field of trade association activities for the three-year period, 1933-1935. While failing to win the major award, which went to the National Machine Tool Builders Association, the A. G. A. is gratified at this national recognition of its work.

Application for the award was based on the program conducted by the A. G. A. Testing Laboratories at Cleveland and Los Angeles, including the national test-

ing and certification program and work on various important research projects. With over 93 per cent of the gas appliances sold in the United States and Canada certified by the Laboratories as complying with national American Standards for safety, efficiency, durability, serviceability and convenience, the importance of this work has been made increasingly more apparent.

In presenting the awards, Secretary Roper declared that the number of associations competing for the award this year was almost double that of the last contest held in 1932. He praised the work of these associations and stated that there are now some fifteen hundred associations of national importance. "A recent survey conducted by the Department of Commerce," he said, "disclosed that more than thirty thousand persons are being employed in carrying out the work of the trade associations."

sidered many questions. Among them were the following:

Should we charge for a part of our service work, or should all of it be free and only the extent be determined?

Should the extent of free service be governed by a time limit or by cost alone?

If certain work is to be charged for, on what basis should the charge be determined?

How much free service should be given for each appliance, and should there be any difference between appliances, and if so what?

Should materials be furnished free, and if so, how much and what materials or accessories?

On what grounds can the furnishing of free material be justified?

How shall unjustified service requests, such as those arising from misunderstanding of instructions, lack of instruction, or inability to meet time payments, be dealt with?

What arrangements should be made to offer voluntary inspections on the premises of consumers who ordinarily do not request service?

How far should we go in making voluntary inspections to determine possible poor operation of appliances which have not been inspected for a long period of time?

The discussions during the drafting of this code led to the conclusion that free service should only include such work as is logically justified, and that it is often uneconomical to adjust or repair obsolete appliances, particularly cheap portable space heating appliances which should be replaced by more up-to-date equipment. Furthermore, no work which is usually considered plumbing work is done, but the consumer requesting it is referred to a plumber. Examples of such work are house piping and the repair of water heaters.

#### *Uniform Service Code*

Our uniform service code as now in effect includes the following general provisions governing free service by our respective companies:

Labor involved in giving adjustment service, and in the installation of replacement parts hereinafter authorized, shall be furnished without charge to the consumer.

Free adjustment service shall consist of supplying the labor only pertaining to the following adjustments:

*Gas Ranges:* We will render complete free adjustment service on gas ranges.

*Water Heaters:* We will make all necessary burner and minimum flame adjustments. On thermostats, the service shall be limited to making simple adjustments

only if such adjustments can be readily made. Where the heater is evidently old and in need of repair, or where there seems to be a possibility that an attempted adjustment of the thermostat may result in damage to the heater, the consumer is advised to call a plumber to have such an adjustment made, and, whenever advisable, a return call should be made.

*Warm Air Furnaces (Central, Unit, Floor, and Duplex Register):* We will make all necessary flame adjustments on all main and pilot burners and relocate the pilot lines where necessary to promote faster ignition. Also, make all necessary adjustments on all gas-supply apparatus which is an integral part of the appliance; such as manifolds, burner cocks, etc. (not including electric control valves).

*Space Heaters (Warm Air Circulators, Wall Heaters, Radiant Heaters, and Gas-Steam Radiators):* We will render complete free adjustment service on space heaters. No adjustments or repairs shall be made on appliances of an obsolete or unsatisfactory type which cannot be put into satisfactory operating condition.

*Gas Refrigerators:* We shall give complete free adjustment service on gas refrigerators. After the expiration of the warranty, parts will be replaced at a uniform charge, based on actual cost, to be determined from time to time. Upon receipt of a refrigerator complaint, the service order shall be checked against the information on the history card regarding date of sale and previous service record. Notation shall be made on the service order whether warranty has expired, or is still in effect, before the order is given to the service man.

We have been operating under this code for about two years. Minor changes may become necessary from time to time, but the principles appear to be sound, at least for our conditions. My observations during its inception and application lead to the following conclusions and recommendations:

1. Close cooperation should exist between sales and service departments if the volume of service is to be kept within reasonable limits during and after intensive sales drives. When new appliances are introduced, the two departments should compare opinions and views so that information issued to consumers and buyers by sales and service men will be uniform and in line with facts. This procedure will avoid a tendency toward overselling which might later develop excessive service demands.

2. Gas company employees charged with receiving routine service requests should preferably be experienced in field service work so that they may intelligently question the consumer and determine the true nature of the complaint or request.

3. The consumer's kitchen should not be used as training ground for service men. The manufacturer of appliances should be requested to cooperate in training men by furnishing sample appliances, accessories,

cutaway models of the more complicated controls, as well as adequate adjustment instructions at the very introduction of new models. There is generally no lack of sales material, but more often than not there is a complete absence of service literature. Such literature should be issued at least a week, and preferably a month, ahead of the sale of new models so that service instruction may be planned and given in the regular training schools of the company.

Such cooperation will not be one-sided. Through close contact with service departments, appliance manufacturers will be informed of field experiences and will be able to take advantage of them in designing new appliances or in making improvements in the present ones. The tendency to conceal controls and means of adjustment has been carried very far so that it is often impossible to make routine adjustments in a reasonable length of time. The service department can do much to bring about lower service costs in the future by insisting that new appliances be built along practical as well as attractive lines.

4. Inspecting and adjusting of appliances in the company warehouse before installation has been found to pay for itself in the reduction of service work previously required shortly after installation.

5. Proper selection and training of service men. The men should be of a type who can be trained not only to know how to do their work but should also be able to decide when not to make any adjustments. For example: When responding to unjustified complaints, if the service man were to make some sort of adjustment solely for the purpose of complying with the request of consumer, he would only confirm the latter in his own mind that he was right. Since no great change would have been made, it is not unlikely that additional complaints would be received from the same party.

6. An adequate tool kit plays an important part in the equipment of service men. Because of the increase in the number of automatically controlled appliances in use, a well-selected assortment of tools will not only insure good work, but keep service time to a minimum.

7. A firm attitude should be taken when answering obviously unjustified service calls. The service department must face and deal with facts. One of them is that the consumer is not always right, but is sometimes mistaken. Either a supervisor, chief inspector, or service foreman should be sent to check conditions at an address from which repeated complaints originate so that unjustified complaints arising from inability to meet time payments, family disagreement over appliances selected, and various other causes may be distinguished from true service requests and unsatisfactory work done on previous calls.

8. Proper service records should be kept of calls and work done so that changing trends in service costs may be accounted for. Such records may also be used in determining what proportion of the total work and expense is required by each type of appliance. The cost of servicing a given



appliance may then be balanced against the revenue derived from it and the result used in promotional rate studies.

9. Excessive free service will not necessarily cause people to continue to use gas in the face of strong electric competition. Service should include only such work as may be necessary to keep appliances in good operating condition, and definitely demonstrate the superior advantages of gas over competing fuels.

10. A central control over complaints

and service requests received should be maintained so that service requests originating from salesmen and home service directors may be reviewed. Group meetings between service, sales, and home service representatives will result in better understanding of each other's problems.

11. Much good promises to result from efforts and time spent to educate appliance dealers in proper service procedure and a better appreciation of correct adjustment and application of gas appliances.

## Nicol Heads New Committee on Personnel Practices



E. A. Nicol

Gas Works Company, to head the new committee.

Mr. Nicol is nationally recognized in the field of industrial relations and is in demand as a speaker on many phases of the subject. In selecting the membership of the committee, President Denning made

**R**ECOGNIZING the importance of personnel matters, the executive board at its January meeting authorized the president to appoint a Committee on Personnel Practices. Subsequently President Denning selected E. A. Nicol, manager of personnel of The Philadelphia

every effort to secure the men who devote all or most of their time to personnel activities of their companies. It is believed his selections have formed a committee which will do most effective work.

The complete membership of the committee is: E. A. Nicol, chairman; Kurwin R. Boyes, American Gas Association, New York, N. Y., secretary; A. M. Boyd, manager, personnel department, Philadelphia Electric Company, Philadelphia, Pa.; R. S. Child, Central Hudson Gas & Electric Corp., Poughkeepsie, N. Y.; John L. Conover, assistant general auditor, Public Service Electric & Gas Co., Newark, N. J.; E. M. Farnsworth, vice-president and general manager, Boston Consolidated Gas Company, Boston, Mass.; F. W. Fisher, manager, personnel and public relations, Rochester Gas & Electric Corp., Rochester, N. Y.; E. L. Hall, operating manager, Portland Gas & Coke Company, Portland,

Oregon; Oliver S. Hagerman, engineer, American Light and Traction Company, Chicago, Ill.; Paul W. Herring, assistant to vice-president in charge of public and industrial relations, The Peoples Gas Light and Coke Company, Chicago, Ill.; George Jaquet, supervisor of customer relations, The Connecticut Light and Power Company, Hartford, Conn.; M. L. Kapp, supervisor of district organization, Oklahoma Natural Gas Company, Tulsa, Okla.; P. H. McCance, personnel director, Philadelphia Company, Pittsburgh, Pa.; W. K. Newell, assistant secretary, Consolidated Edison Company of New York, Inc., New York, N. Y.; D. L. Scott, personnel manager, Los Angeles Gas & Electric Corp., Los Angeles, Calif.

An organization meeting of the committee was held at Headquarters in April with Mr. Nicol presiding. At that time it was agreed the committee should cover any personnel matter, from the viewpoint of a personnel manager, with which the president or operating head of a company is faced and to emphasize the increasing importance of personnel matters. It was decided this should be done, (1) through the sections of the Association emphasizing the importance of personnel discussions, and (2) through special activities such as: speakers at main sessions of convention; articles in A. G. A. MONTHLY and gas trade journals; reports; conferences of personnel executives; conferences of executives on personnel subjects, and exchange of information between companies.

The new committee is pledged to lend its assistance to company members and to other committees of the Association confronted with or considering any problem in the field of industrial relations.

## Association's Executive Board Meets at Atlantic City



Meeting of the Executive Board at Atlantic City, N. J., May 21, during the annual executive conference. Reading left to right, seated—Conrad N. Lauer, Dana D. Barnum, Herman Russell, L. B. Denning, Arthur Hewitt, C. M. Cohn, P. S. Young. Standing—C. E. Bennett, C. W. Gale, Walter C. Beckjord, J. S. DeHart, Jr., Thor. E. Roach, W. T. Rasch, J. F. Rooney, W. Frank Roberts, Kurwin R. Boyes, Randall J. LeBoeuf, F. A. Newton, George S. Hawley, Alexander Forward

# Summer Air Conditioning and the Gas Industry



W. A. Scully

ONE of the most popular and most talked of subjects today is summer air conditioning. Throughout the country from coast to coast the public seems to be air-conditioning minded. There are

definite reasons for this on the part of the public. First, air conditioning makes for better living conditions and more comfort. In addition, it is modern and is the latest step forward in the never ending progress of the world. Furthermore, it has been extensively advertised from its very inception. We daily see advertisements of air-conditioned trains, air-conditioned restaurants, offices, homes, etc.

Let us pause for a moment to review what the term, "Air Conditioning" signifies. The American Society of Heating and Ventilating Engineers has defined air conditioning as "the

By W. ANDREW SCULLY

Chairman, Subcommittee on Summer Air Conditioning

simultaneous control of the temperature, humidity, movement and purity of the air."

The gas industry entered the summer air-conditioning field as far back as 1928 when the Committee on Industrial Gas Research of the Ameri-

can Gas Association saw the possibilities of utilizing gas for air conditioning by the adsorption dehydration method. A considerable amount of research was carried on under the direction of this committee and in conjunction with manufacturers.

After the development and construction of practicable units, extensive field tests were run. Approximately fifteen installations were made



Figure 2



Figure 1

and carefully supervised, checked and analyzed. The results of these field tests were very gratifying, and indicated that gas could be made a very important factor in the field of air conditioning.

Nineteen hundred thirty-five was really the first year that the gas industry made a definite stride in the sale of air-conditioning units. Previous to that, the industry was primarily interested in perfecting the equipment so that complete air conditioning could be sold to the customer at a reasonable cost both for installation and operation.

During the year over fifty installations using the dehydration method

were made in various parts of the country. For strictly comfort conditioning these installations included such premises as office buildings, restaurants, funeral parlors, beauty shops as well as residences.

Of these installations, over ten were in utility offices, showing that the utilities are thoroughly convinced of the practicability and desirability of gas systems of air conditioning.

A few representative installations are shown in the accompanying pictures. Figures 1 and 2 show the exterior and

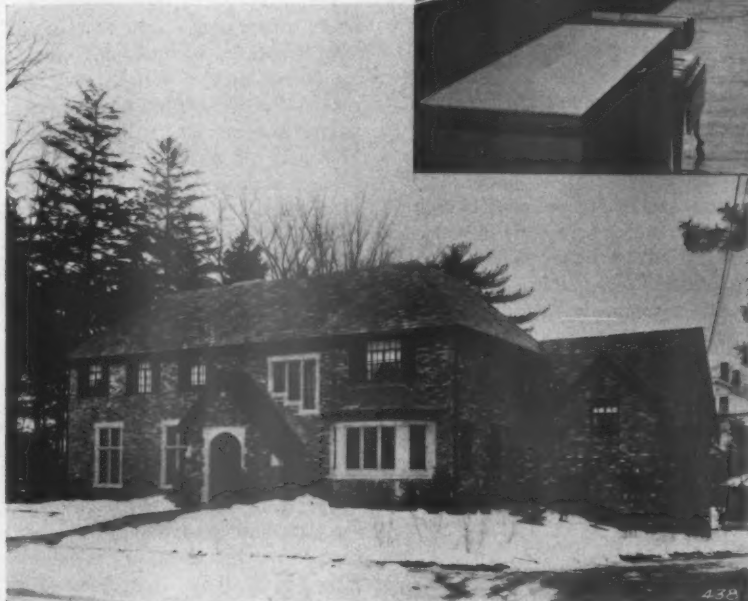


Figure 4

the interior of a typical restaurant using gas air conditioning. This restaurant has a total cubage of 57,000 cubic feet and is dehumidified and cooled by a combination system employing a gas dehumidifier and a  $7\frac{1}{2}$ -ton refrigeration unit.

Figure 3 shows a typical utility showroom floor that is air-conditioned by gas. This utility office has a total cubage of 166,400 cubic feet and also employs a combination system of gas dehumidifiers and electric refrigeration units. This installation is one of the largest installations made during the year.

Figure 4 shows a typical residence which is conditioned by gas equipment. In this case, the moisture is removed by a gas dehumidifier and the sensible



Figure 3

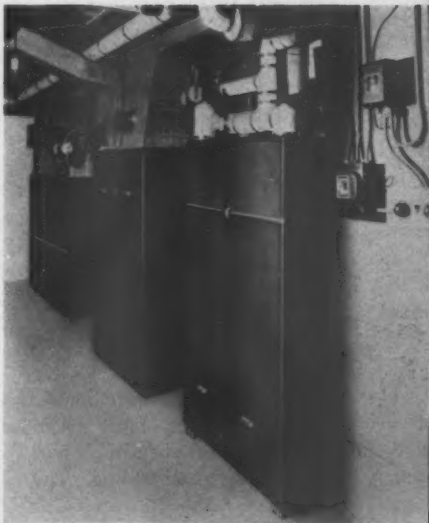


Figure 5



heat is removed in a water-cooled coil. The total cubage of this residence is slightly over 25,000 cubic feet. In Figure 5, we see another typical residence with air conditioning together with the complete gas installation for both summer and winter conditioning. This residence has approximately 10,000 cubic feet of conditioned space and is equipped with a gas dehumidifier and water-cooled heat removal coil. In the foreground is a gas steam boiler for winter supply of steam to the heating coil and blower unit immediately adjacent to it. This unit incorporates a blower, a humidifier and air filters as well as the heating coil of a fin type. Behind this unit is located the gas dehumidifier with its cooling coils overhead. It is a simple matter to change over from summer to winter or vice versa, the only action necessary being to change a few dampers and to turn several switches.

#### *Gas Air Conditioning Inexpensive*

Accurate data were recorded on the operation and cost of these various installations. These data show a definite trend that the cost of air conditioning by gas is as cheap or cheaper than by other methods. Up to the present time such data in general have not been available to the industry at large. Utilities which have one or more conditioning units on their lines have, of course, the data on their own installations. They do not always have the opportunity of comparing this with other installations in other parts of the country, however.

With this thought in mind, the Subcommittee on Air Conditioning is planning to issue several bulletins during the coming year. The committee feels that air conditioning has a definite place in the activities of every gas company. At the last meeting of the committee, it was the unanimous opinion that it could be of great assistance in promoting gas air conditioning activities by gas companies by the issuance of the bulletins mentioned above.

At the present time there are available on the market, three pieces of equipment using gas for summer air conditioning, by means of dehumidifying. One is the Silica-Gel machine,

another is the Lithium Chloride machine and the third is the Activated Alumina machine.

In the Silica-Gel machine, the gel, which is a hygroscopic material is arranged in two sets of pans or trays. Arrangements are made for passing the air to be dehumidified over each tray alternately. At the same time, air for activation which has been heated by a gas burner is passed over the tray which is not in use. The operation of the machine is entirely automatic and is timed for a definite cycle. The method gives a continuous flow of dehumidified air whenever called for.

In the lithium chloride machine, the air to be dehumidified is brought into intimate contact with a solution of lithium chloride. Lithium chloride solutions as used commercially in dehumidifiers have the ability to dry air to about 13% relative humidity at temperatures of 60° or above. It is characteristic of the solution that the relative humidity of the air in contact with it is not totally dependent on the temperature. The solution is non-caustic, odorless, less corrosive than water on most metals under ordinary conditions and has an absorbing power for most vapors which are soluble in water as well as for the water.

The Activated Alumina machine operates on the same general principles as the Silica-Gel machine.

With these machines on the market, it is possible to secure for the gas utility some of the load which air conditioning is bound to bring. These machines will not give the entire load of a given installation to the gas company, however. In addition, power and water must be used. The cooling of the air may be done by water in some cases or by a power compressor in other cases.

#### *Gas Engine Unit*

There is now being developed a gas-operated engine compressor unit for refrigeration purposes. This type of unit is somewhat the same as those used in air conditioning railway cars, using bottled gas as a fuel. A number of machines are in use on railway service at the present time.

Such a combination of units, would of course, present to the gas industry a still greater load to be derived from summer air conditioning. The Subcommittee on Air Conditioning is at

present studying this phase of the problem and contemplates having further information available later in the year. Such a combination unit is air conditioning a model house at the Texas Exposition this summer.

Several absorption refrigeration units of various designs are being tested in different parts of the country this summer. It is too early to report on their practicability.

It was decided that these bulletins should be three in number. The first one will give a list of gas companies and the man in charge where gas air-conditioning installations have been made. Information on the number and type of jobs by premises and type of equipment, date of installations, total gas load involved, effect on load factor and revenue involved will be included. The latter part of this first bulletin will give reasons why every gas company should enter this field actively and promptly.

#### *Information Bulletins*

The second bulletin will comprise a comprehensive discussion of improvements and simplification which have been made in equipment, mentioned in last year's Interim Bulletin, together with a description of all new equipment introduced since that date.

The third bulletin will give operating data and, so far as possible, the competitive bid data on typical jobs installed by those companies to be listed in the first bulletin.

Gas companies should realize that summer air conditioning is of definite advantage to them, especially if, as in most cases, their peak is in the winter time. Interim Bulletin No. 27 of the American Gas Association, published last year, has the following interesting comment on the advantages to be derived from summer air conditioning.

"1. Where a gas company is selling space heating gas on a narrow margin (particularly in cases where substantial investments have been made in coke oven plants or natural gas pipeline equipment), the amount of profit on a dollar's worth of summer air conditioning revenue may equal the amount of profit obtained from six or even eight dollars' worth of space heating gas, assuming both are sold for the same price per therm. This is

due of course to the investment in plant equipment which stands idle in the summer time and must be paid for out of winter load revenue.

"2. The summer air conditioning equipment now on the market has shown in actual use that results may be expected which are equal if not superior to those obtained with any other system. In other words, the operating conditions obtained with summer air conditioning equipment, including humidity, temperature and operating cost, have been very satisfactory.

"3. The satisfaction experienced by a user of summer air conditioning equipment would help considerably in enhancing the good will of the gas company and would tie in very well with the developments of the space heating load, not to mention the probability of its fortifying the domestic load as well. In other words, the development and sale of gas-fired summer air conditioning equipment should bring the gas industry to the attention of the public in a very favorable manner, indicating an alert industry and a product that is increasingly useful."

## New York Commission Loses Appeal on Accounting Practices

THE New York Public Service Commission, May 19, lost its appeal to the Court of Appeals to enforce an order requiring public utility companies to segregate their capital accounts to show the original cost of properties and to set up straight-line depreciation; also to charge against surplus the price paid for properties over the original cost to the first builder.

The Appellate Division, Third Department, previously had denied the commission's right to enforce a uniform method of accounting and had sent the matter back to the commission. The justices had held, in effect, that the commission did not have the power to require companies to show in their books the "original cost" of property acquired from predecessor utilities, in the manner set forth in the uniform system of keeping accounts, and that the requirements would involve confiscation of a portion of the property of the utilities.

The Appellate Division also had ruled that the commission lacked the power to adopt the "straight-line" system of depreciation for accounting purposes and that the uniform accounting systems under review, in so far as they related to utilities setting up depreciation on a "straight-line" method, were ultra vires. This tribunal had found, moreover, that the commission's orders were confiscatory in so far as they required "capital stock expense" to be charged off from surplus. The commission's orders requiring expenses to be placed in a "suspense" account and not charged to operating expenses until so directed by the commission was an unwarranted assumption of authority and illegal, the Appellate Division had ruled.

The Court of Appeals, in the opinion it gave May 19, declared:

"We agree with the Appellate Division in its construction of the order of the Public Service Commission. On that construction the orders were more than

general, administrative or legislative rules. They directly interfered with private property rights of the respondents."

Such an order may be made only after a hearing and, since it involves a judicial act, is subject to review on certiorari, according to the judges, who added:

"Nothing here decided limits the power of the commission to prescribe uniform methods of keeping accounts, records and books (Public Service Law, Sec. 66, Subd. 4). Under that power all the information here sought could have been elicited from the respondents by directions of the commission that would have been open to none of the objections to its present orders. The order of the Appellate Division should be affirmed without costs. The first question certified is answered in the affirmative and the others in the negative."

The question certified was whether a certiorari would lie. The court held that it did.

Thirty-eight public utilities joined the New York Edison Company in making the appeal from the commission's ruling.

—New York Times.

## T. J. Strickler Elected to A. G. A. Board

AT a meeting of the Executive Board in Atlantic City, N. J., May 21, Thomas J. Strickler, vice-president and general manager of the Kansas City Gas Company, Kansas City, Mo., was elected a director of the American Gas Association to fill the unexpired term of the late Judge H. O. Caster. Mr. Strickler's term will expire in November, 1937.

Mr. Strickler, who at present is chairman of the Committee to Conduct National Advertising, has had a notable career. He has been active for years in the American Gas Association, having served on many important committees and in 1932 as chairman of the Natural

Gas Department. He was recently re-elected a director of the United States Chamber of Commerce representing the seventh district.

Born on May 21, 1883, in Topeka, Kansas, Mr. Strickler attended the University of Kansas, graduating from the School of Engineering in 1906. After engineering work with the U. S. Reclamation Service, in 1911 he became assistant engineer of the Kansas Public Service Commission and, in 1913, chief engineer of the commission.

In 1920, he became consulting engineer for the Empire Gas and Fuel Co., Bartlesville, Okla., in charge of rates and valuations of the gas division. In 1922, he became consulting engineer for Henry L. Doherty and Co. and in 1925 was made consulting engineer for the Gas Service Company, Kansas City, Mo., in charge of rates, valuations and public relations. He was made vice-president and general manager of the Kansas City Gas Co. in 1927.

He is a past president of the Missouri Association of Public Utilities and is active in civic affairs. He is or has been a director or vice-president of more than 30 gas companies.

## Gas vs. Electricity

WENDELL L. WILLKIE, president of Commonwealth & Southern Corporation, says in his annual report that while it frequently is said that this is the electric age and that by comparison the gas industry is not progressing, activities of his group for the year show electric sales 13.62 per cent up in 1935 and gas sales 14.22 per cent higher than in 1934; further, electric customers increased 4.36 per cent and gas customers 5.49 per cent.

## Austin's Mayor Proclaims Natural Gas Weeks

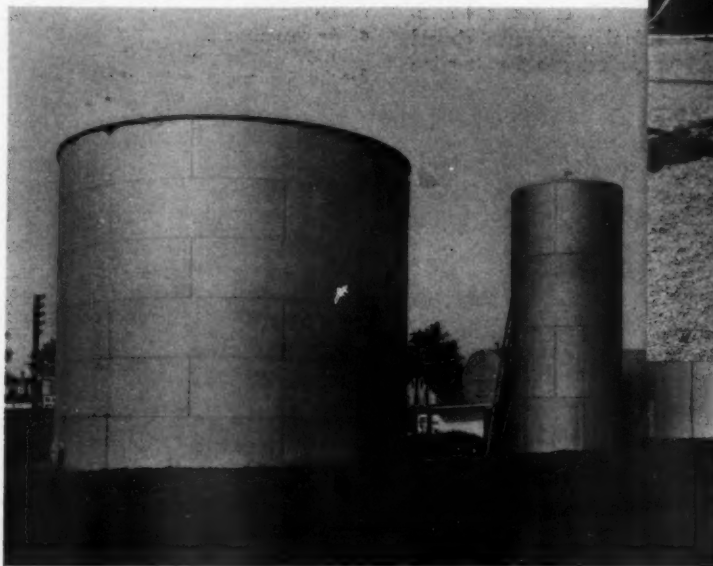
IN recognition of the value of natural gas as a fuel and as a personal tribute to the service of A. T. Knies as vice-president of the Texas Public Service Company, the weeks of May 3 to May 17 were proclaimed "Natural Gas Weeks" by Mayor Tom Miller of Austin, Texas. This unusual proclamation appeared in the local newspapers on May 3 supported by advertisements of gas appliance dealers who wholeheartedly cooperated in promoting the idea.

The Mayor's proclamation read in part: "This year marks more than twenty years of service of Mr. A. T. Knies as vice-president of the Texas Public Service Company, and also his twenty-third year of residence in Austin. Mr. Knies has been associated with the various civic movements for the building of our city since he first came to Austin.

"The Texas Public Service Company has consistently kept step with the continued growth of our city in making extensions for the building of new homes, and has been one of Austin's largest taxpayers through those years."



## Gas Man Wins Acclaim for Heroic Act



*George L. Creely, above left, whose courageous action prevented a possible catastrophe when he snuffed out a fire along the top of the 215,000-gallon gasoline tank shown at the left. With Mr. Creely is George Armstrong who also risked his life in rendering assistance. Both are gas company employees*

**H**EROIC action by George L. Creely, superintendent of the Somerville, N. J., gas distribution department, Public Service Electric and Gas Company, averted what might have been a serious fire May 13 when lightning ignited fumes along the top of a 215,000-gallon gasoline tank of the Standard Oil Company whose property in Somerville adjoins that of Public Service.

Creely was in his office when informed of the fire by a woman neighbor and rushed over with other Public Service men. Flames were creeping along the rim of the tank, as Creely scrambled up the ladder to the top. Peeling off his raincoat, Creely used it to fan out the flames and in a few minutes he had extinguished the fire.

A construction crew which had been erecting a snow guard on the Public Service 500,000 cubic foot waterless holder and had gone into the gas shop to escape a driving rain also hurried to the scene of the fire, hauling with them a two-wheeled extinguisher filled with carbon dioxide. One of these men, George Armstrong, climbed to

the top of the gasoline tank with Creely but the hose of the extinguisher was too short to reach the fire. Armstrong then directed his attention to helping Creely.

The Somerville Fire Department had responded to an alarm but Creely, who is fire marshal and president of Engine Company No. 1 of the local volunteer fire-fighting force, told them the way to extinguish the fire was to beat the flames down, as the force of water playing on the blaze might drive sparks under the rim and into the tank, igniting the gasoline.

Creely's courageous work brought him nationwide attention. Newspapers all over the country carried stories of his heroic action and he was invited to speak on the radio the next night over a coast-to-coast hookup. That experience, although Creely enjoyed it immensely and was told by the studio people and many other listeners that he has a "good radio voice," was much more exciting, he intimated, than putting out the fire.

As for extinguishing the fire, that was simply a matter of knowing what

to do and doing it, Creely inferred. That knowledge was the result of long experience in the Somerville volunteer fire department plus twenty-eight years' service in the gas department of Public Service. Creely started with Public Service in 1908 as a fitter's helper at Somerville; later was made general foreman and in 1925 was promoted to superintendent of the Somerville district.

Armstrong has been with Public Service about three years, as a member of the construction crew which does work on holders and other structures on the company's gas department property. Previously, he worked for the Bartlett-Hayward Company, building gas holders, and worked on the construction of the Harrison 15,000,000 cubic foot waterless type holder of Public Service, one of the largest of its kind in the country.

Following is a complete list of the Public Service men who participated in the Somerville occurrence: George L. Creely, George Armstrong, Russell H. Moke, Harry Lambert, Paul Wolfe, John Garrahan, John Crowley, Timothy Tansey, George Kaldera.

# Testing Holder Crowns for Stability

By C. S. GOLDSMITH

The Brooklyn Union Gas Company,  
Brooklyn, N. Y.

**D**URING the past two years gas holders have received more publicity than in any previous period with which the writer is familiar. The Public Service Commission of New York State issued an order, effective June 1, 1935, entitled "Rules and Regulations Pertaining to the Inspection and Maintenance of Gas Holders." Among other things contained in this order, there is a paragraph which states in part as follows: "After a long period of use, not to exceed twenty years, physical tests shall be made upon specimens cut from the thin material of the crown plating. . . ."

As shown in Figure 1 (a typical layout for the crown sheets of a five mil-

lion cu.ft. holder), the first course of steel plates at the curb is  $\frac{3}{4}$ " thick. The second course of steel plates is  $\frac{1}{4}$ " thick, and the third course is No. 8 steel, or .172" thick. These plates are always made heavier to withstand the compression stresses present in the outer sheets of the holder crown when the holder is inflated. The fourth course from the curb is the first course of No. 10 steel plates. From this point to the center crown plate of the holder all the plating is No. 10 steel. The test coupons may or may not be removed from this particular course of

plates, but it is customary to remove them here, the reason being that bending or weaving is supposed to occur at this point to a greater extent than at any other part of the crown.

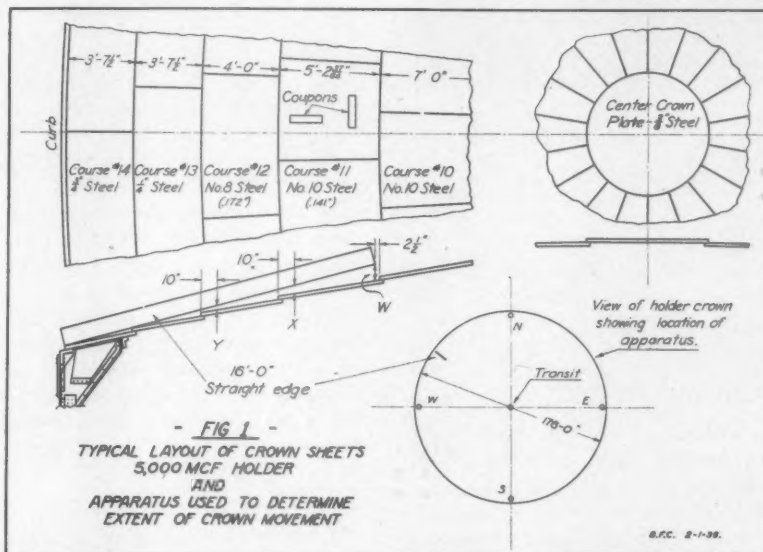
To determine the truth or falsity of this supposition, we made some tests on a five million cu.ft. holder crown, as illustrated in Figure 1.

Four surveyor's rods were vertically set up on the crown curb at ninety-degree intervals and a transit placed on the center crown plate. Elevation readings were then taken at the four

points as the holder rose from a low position to full inflation, the readings being taken as each of the five holder sections came into active use. Simultaneously, readings were taken between the crown plating and a sixteen-foot straight edge mounted near the periphery of the crown as shown. The readings are given in Tabulation "A" and Tabulation "B."

TABULATION "A"

Section	Point W	Point X	Point Y
1st	8 $\frac{3}{4}$ "	4 $\frac{3}{4}$ "	2 $\frac{1}{8}$ "
2d	8"	4 $\frac{1}{4}$ "	1 $\frac{7}{8}$ "
3d	7 $\frac{9}{16}$ "	4 $\frac{1}{16}$ "	1 $\frac{3}{4}$ "
4th	7 $\frac{1}{4}$ "	4"	1 $\frac{3}{4}$ "
5th	7 $\frac{1}{8}$ "	3 $\frac{5}{8}$ "	1 $\frac{1}{2}$ "
Diff. bet. 1st and 5th sections	1 $\frac{3}{4}$ "	1 $\frac{1}{8}$ "	$\frac{9}{16}$ "



It will be noted that at Point X, where the first course of No. 10 plating begins, the total rise of the crown in going from a low position to a high position is  $1\frac{1}{8}$ ". However, there is no appreciable bending at this point because, while the crown plate rose  $1\frac{1}{8}$ " at Point X, it also rose  $1\frac{3}{4}$ " at Point W, and  $9\frac{1}{16}$ " at Point Y. Also, the crown at the center rose  $2\frac{1}{8}$ ". If these points are plotted on a large scale drawing, the resultant curve shows that the crown rose uniformly from zero at the curb to  $2\frac{1}{8}$ " at the center. In a diameter of 176 feet, the rise is negligible and is accounted for entirely by the stretch of the steel.

We find, therefore, that the first course of No. 10 plating is not more susceptible to bending or fatigue than

lion cu.ft. holder), the first course of steel plates at the curb is  $\frac{3}{4}$ " thick. The second course of steel plates is  $\frac{1}{4}$ " thick, and the third course is No. 8 steel, or .172" thick. These plates are always made heavier to withstand the compression stresses present in the outer sheets of the holder crown when the holder is inflated. The fourth course from the curb is the first course of No. 10 steel plates. From this point to the center crown plate of the holder all the plating is No. 10 steel. The test coupons may or may not be removed from this particular course of

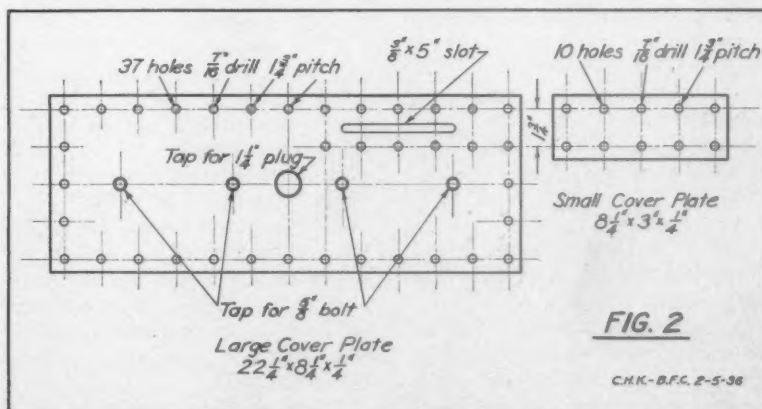




Figure 3

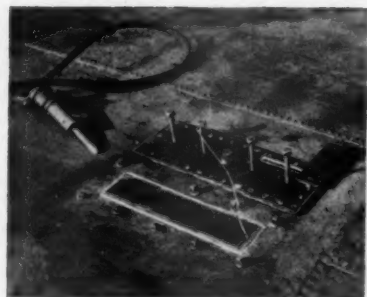


Figure 4

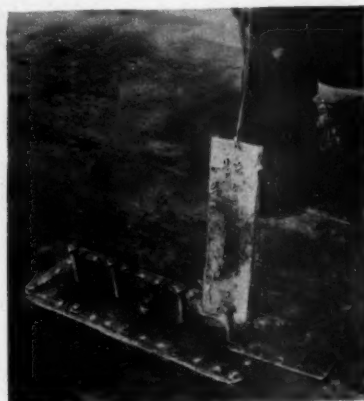


Figure 5



Figure 6

TABULATION "B"

Section	Location N	Location E	Location S	Location W	Avg. N & S	Avg. E & W	Average All Four Points
1st	10' 10"	10' 7 $\frac{3}{8}$ "	10' 6"	10' 8 $\frac{3}{8}$ "	10' 8"	10' 8"	10' 8"
2d	10' 10 $\frac{1}{4}$ "	10' 8 $\frac{3}{8}$ "	10' 8 $\frac{1}{4}$ "	10' 9 $\frac{7}{8}$ "	10' 9 $\frac{1}{4}$ "	10' 9 $\frac{1}{4}$ "	10' 9 $\frac{1}{4}$ "
3d	10' 10 $\frac{3}{4}$ "	10' 8 $\frac{7}{8}$ "	10' 8 $\frac{3}{4}$ "	10' 10 $\frac{1}{8}$ "	10' 9 $\frac{3}{4}$ "	10' 9 $\frac{1}{2}$ "	10' 9 $\frac{5}{8}$ "
4th	10' 11"	10' 9 $\frac{1}{8}$ "	10' 9 $\frac{1}{2}$ "	10' 10 $\frac{7}{8}$ "	10' 10 $\frac{1}{4}$ "	10' 10"	10' 10 $\frac{1}{8}$ "
5th	10' 11"	10' 9 $\frac{1}{8}$ "	10' 9 $\frac{1}{2}$ "	10' 10 $\frac{7}{8}$ "	10' 10 $\frac{1}{4}$ "	10' 10"	10' 10 $\frac{1}{8}$ "
Diff. bet. 1st and 5th sections	1"	1 $\frac{1}{4}$ "	3 $\frac{1}{2}$ "	2 $\frac{1}{4}$ "	2 $\frac{1}{4}$ "	2"	2 $\frac{1}{8}$ "

any other course of plating in the crown, and also that bending at any point is infinitesimal.

#### Removal of Test Coupons

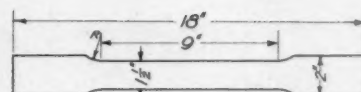
In order to get a large enough piece of metal from which to shape the required test specimens, it is necessary to remove a sample 4" wide by 19" long. While this may be done with comparative safety with ordinary precautions taken, it is considered safer to use the method about to be described.

A cover plate is made, as shown in Figure 2, and taken on the holder crown with the necessary tools and equipment for removing the test specimen. Ordinary hand tools may be used for scoring the metal, but when compressed air is available the scoring may be done with greater ease and speed

by using an air tool. As shown in the photograph, Figure 3, the test coupon is scored in the crown plating and a piece of wire is attached to one end. Ten  $\frac{3}{8}$ " holes are tapped with which to hold the cover plate down while the coupon is being removed.

When the scoring has been completed to a depth almost through the metal, in fact completely through in many places, red lead putty being used to stop the escape of any gas, a thin steel plate is placed on top of the coupon, as shown in Figure 4, to prevent the  $\frac{5}{8}$ " bolts from scoring the sample. The wire is brought up through the slot in the cover plate and the cover plate is then bolted down with ten tap bolts to its permanent position. The small cover plate is then securely bolted into place.

To remove the coupon it is neces-



Tension Test Specimen  
R = 1" to 3"



Bend Test Specimen  
10" x 1"

Note: Finish all edges C.H.K.-B.F.C. 2-6-36.

FIG. 7

sary merely to screw down on the four  $\frac{5}{8}$ " bolts until the detached coupon is free. If, as sometimes happens, the coupon breaks free on one side and two ends, but still remains attached to one side, it is a simple matter to remove the  $1\frac{1}{2}$ " plug from the center cover plate and by means of a hooked rod bend the coupon back and forth until it breaks free. All the bolts, except one, are then removed from the small cover plate and the plate rotated to one side. The test piece is then easily removed through the slot by means of the wire, as shown in Figure 5, and the small cover plate replaced. Ordinary bolts with grummets, washers, and nuts are used to make the cover plate permanently fast to the crown. The bolts are strung into position, as shown in Figure 6, by the method known to all gas men.

If this method of removing test coupons is used, together with a liberal use of red lead putty, there will be practically no escape of gas at any time during the operation. Furthermore, there will be no danger of igniting the gas.

#### Preparation for Testing Coupons

If test coupons are to be removed from several holder crowns, it is better to wait until ten or twelve coupons are assembled before proceeding with the machine work. It is necessary to prepare two test pieces for each specimen removed from the crown, one for the tensile strength test, and one for the bending test. The dimensions to which these test pieces should be cut are shown in Figure 7. If a Universal milling machine is available it is a simple matter to saw the specimen in two parts from which to make the stress specimen piece and the bend specimen piece. Ten or twelve specimens are then clamped together, as shown in Figure 8, and placed in the





Figure 8. Method of making holder coupons. View of machine



Figure 9. Close-up view of method of making holder coupons

milling machine for shaping. Figure 9 is a close-up view of the milling cutter just beginning to shape the neck of the tensile stress specimens. The specimens for the bending test are milled in a similar manner. The samples are then ready to be sent to the Testing Laboratory.

#### Testing Coupons

Figure 10 shows a test specimen in a tensile stress machine after the sample has been pulled apart. On the shelf to the right in the photograph can be seen nine additional specimens ready to be tested. The machine shown in

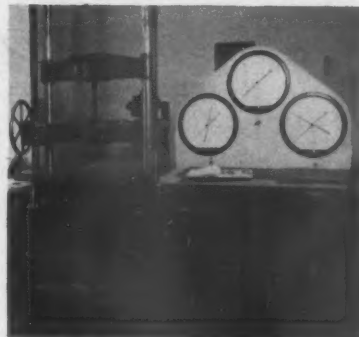


Figure 10. Test sample broken, Columbia University

the photograph is a hydraulic machine, but a beam testing machine may be used to equal advantage.

In the photograph, Figure 11, may be seen a bend test specimen being tested on the bending machine. The diameter of the pin about which the sample is bent depends upon the thickness of the metal to be tested. It should be noted that the block upon which the sample rests is not raised sufficiently to clamp the test specimen between the block and the pin. Sufficient clearance is allowed so that as the metal is bent around the pin, the part resting on the block is free to slide. Tabulation "C" shows the results of tests made upon steel samples removed from holder crowns.

To determine approximately what factor of safety we have in holder crowns, we calculated the actual stress in the first course of No. 10 plating of a five million cu.ft. holder. The calculations are as follows:

Pressure taken at outlet pipe at base of holder, with holder full of gas is...13.2"  
Height of holder is.....232'  
Pressure at top of holder under same conditions = Pressure at base of holder plus correction for height of holder  
 $13.2 + .0062 \times 232' = 14.64'' = .528 \text{ lbs./sq.in. (Use .53) (Gas at .58 specific gravity)}$

#### TABULATION "C"

##### Results of Tests Made upon Steel Samples Removed from Holder Crowns

Material	Steel	Steel	Steel	Steel	Steel	Steel
Laboratory Test No.	62017	62018	62193	62194	62195	62196
Width in inches	1.505	1.505	1.507	1.507	1.506	1.503
Thickness in inches	0.157	0.155	0.130	0.138	0.135	0.139
Area in square inches	0.236	0.233	0.196	0.208	0.203	0.209
Elongation in 8 inch	1.75	1.80	2.00	1.80	1.42	1.94
% of elongation in 8 inch	21.9	22.5	25.0	22.5	17.8	24.3
Yield point load in lbs.	8420	8700	7500	7600	9400	8750
Maximum load in lbs.	12240	12450	10750	10850	11850	11900
Yield point, lbs./sq.in.	35700	37300	38300	36500	46300	41800
Ultimate strength, lbs./sq.in.	51800	53400	54800	52200	58400	56900
	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{8}$	$\frac{1}{2}$	$\frac{1}{8}$
Location of fracture	Point	Point	Point	Point	Point	Point
Cold bend test— $\frac{3}{8}$ " pin used. Angle bent	180°	180°	180°	180°	180°	180°
Condition after bending	O.K.	O.K.	O.K.	O.K.	O.K.	O.K.



Figure 11. Bending machine, Columbia University

$$\text{Radius of dome } R = \frac{C^2}{8h} + \frac{h}{2} \text{ Where:}$$

$$C = \text{Chord} = 180'$$

$$h = \text{Rise} = 11'$$

$$R = \frac{180^2}{8 \times 11} + \frac{11}{2} = 373.7'$$

$$\text{Unit stress in crown plates} = K = \frac{Rp}{2t} \text{ Where:}$$

$$R = \text{Radius} = 373.7'$$

$$p = \text{Pressure} = .53 \text{ lbs./sq.in.}$$

$$t = \text{Thickness of crown plate} = .15'' \text{ in fourth course (No. 10 steel plates)}$$

$$K = \frac{373.7 \times 12 \times .53}{2 \times .15}$$

$$K = 7,880 \text{ lbs./sq.in.}$$

The firm that built the holder gives a maximum efficiency of riveted joints as 66%. Therefore the maximum stress in the holder crown is:

$$7,880 \times \frac{100}{66} = 11,950 \text{ lbs./sq.in.}$$

From the foregoing it will be noted that we have a safety factor of 4 or 5 to 1 in the No. 10 steel plating of the holder crown. Therefore if corrosion is prevented on the outside by means of paint, and on the inside by so purifying the gas that no corrosive elements will be present, there is no reason to believe that crowns of holders should not last indefinitely. In corroboration of this, metallurgical tests made upon samples taken from the crowns of holders that have been in service 25 or 30 years, indicate no evidence of metal fatigue.

# Business Practices by Gas Range Manufacturers



W. Frank Roberts

**L**AST fall I. W. Peffly, of the American Stove Company, as chairman of the Gas Range Division of the Association of Gas Appliance and Equipment Manufacturers, appointed Roger

Gordon, Paul Tappan and myself as a committee to consider business practices as accepted by individual gas range manufacturers.

As chairman of that committee, I made a report to the gas range manufacturers present at meetings in Chicago on January 7 and on March 17.

## *Clear-cut Standards Needed*

All of us understand that the successful manufacturer bases his success upon clear-cut standards of business practice. As individual manufacturers, we are very much interested indeed in getting information as to the opinions of other manufacturers with respect to what constitutes good business and with respect to the matters which are poor business or opposed to good business practice. In the NRA Code work we had a definite statement of business practice which we thought had the legal approval of Washington authorities. While the Supreme Court decided otherwise as to legal approval, nevertheless the gas range manufacturers generally were quite apparently pleased with the standards set up in the Code as to business practices. Very few of the manufacturers support the idea of coercion or compulsion, but my company, and I am sure a good many other companies, thought that distinct good was had through the preparation and publication of a statement in Code form as to matters which might be adhered to as good business practice making for the

**By W. Frank Roberts**

President, Standard Gas Equipment Corporation

legitimate and proper business success of the individual business manufacturers.

With these points in mind, the manufacturers of gas ranges present at the meetings of the Division held in Chicago on January 7 and on March 17 decided that there should be a free exchange of individual opinion as to what could be considered as correct business practice. The following statement is, therefore, presented as a matter of my own individual opinion, but nevertheless as an opinion which I myself believe is widely shared throughout the gas range industry.

Those of us who have discussed business practices over the past several years are in substantial agreement among ourselves that our individual businesses will succeed better if all the members of the industry adhere to correct business standards. That is my individual opinion, and I make the following statement as an invitation to all other manufacturers. Let us have a free expression of individual opinion, if you please, to the end that gas range manufacturers may well understand the standards of business conduct that make for the success of the individual manufacturer and of the industry.

## *Statement of Business Practices Suggested for Manufacturers of Gas Ranges*

### *ARTICLE I—Bases for Prices*

No manufacturer shall sell or exchange any product of his manufacture at a price or upon such terms or conditions that will result in the customer paying for the goods received, less than the cost to the seller, determined in accordance with standard method of accounting; provided, however, that dropped lines, seconds, or inventories which must be converted into cash to meet emergency needs, may be dis-

posed of in such manner, and on such terms and conditions as are necessary to move such product into buyers' hands.

### *ARTICLE II—Trade Practices*

The practices and methods as set forth in the following paragraphs in this Article are hereby designated as unfair methods of competition:

1. Making any agreement or contract, the effect of which will amount to the sale and/or delivery of gas appliances on consignment.
2. Allowing terms or payment other than those stated in the published sales terms of each employer, except as otherwise provided herein.
3. Selling or offering to sell any merchandise with a repurchase agreement.
4. Allowing the return of merchandise at other than the fair market value at the time of its return, except merchandise having manufacturing defects may be returned for full credit.
5. Purchasing or allowing credit for secondhand merchandise at an amount greater than its fair market value.
6. Using premiums in the sale of merchandise.
7. Giving gratuities, or making payments to any employee or agent of a customer, or prospective customer.
8. Selling or offering for sale any article containing false marking or branding, with the intent or the effect of misleading or deceiving purchasers with respect to rating, quality, grade, or substance of the merchandise.
9. Defaming competitors by falsely imputing to them, dishonorable conduct, inability to perform contracts, questionable credit standing, or other false representations, or the false disparagement of the grade or quality of their products for the purpose, or with the effect of misleading or deceiving purchasers or prospective customers.
10. Using excessive inducements or entertainment or other practices for their agents, dealers, or distributors which tend to add unduly to sales costs.
11. Imitating or simulating any trade-mark trade name, slogan, or other marks of identification of a competitor, having the tendency and capacity to deceive or mislead purchasers or prospective purchasers.
12. So long as the maker of any trade-marked "Gas Appliance" (or his successor in business) continues to make and supply repair parts therefor, it



shall be an unfair method of competition for any other person to make and supply repair parts for such "Gas Appliances," unless

- (a) the name of the maker of such repair parts is plainly marked on each part (or if this is impracticable, on the package or tag), and unless
  - (b) said parts are otherwise marked, packaged, and sold without imitative labels, and in such a manner as to clearly indicate to the ultimate user that they are not made by the maker of the original "Gas Appliance."
13. Cash discounts operating as price concessions. Cash discounts should approximate current interest rates for use of money under similar conditions.

As I understand the law, it will be entirely optional to any manufacturer

whether he accepts any or all of the above statement as applicable to the transactions of his own business. But, in my opinion, these are very reasonable standards of good business conduct. This opinion is shared by the members of my committee. Individual opinions expressed by manufacturers at the meetings were along the same lines. It is quite desirable that further thought should be given so that a healthy standard may be characteristic of the gas range industry. We are enjoying increasing sales. Because of the severe depression most of us really need to make legitimate profits. In my opinion, these standards are in that direction and are particularly fair to the public, which we serve.

centers of the country. Locations have been changed to match the flow of traffic. When you buy Outdoor Advertising in these markets you know exactly how much circulation you are getting—how much per thousand it is costing.

For example: A 12½ foot by 47 foot—City Bulletin (Outgoing traffic), Illuminated with Landscaping and located at Wilshire Boulevard and Western Avenue, N. W., Los Angeles, has a Daily "CV" of 49,500, a Monthly "CV" of 1,485,000 and costs \$350 per month on either a 4, 8 or 12 months' basis.

The term "CV" as used in conjunction with the circulation figures on painted displays, means Circulation Visibility, or the effective circulation approaching the display, modified by the length of approach to the bulletin and its angle to the line of traffic.

This year over five hundred of America's major advertisers are using this primary medium at metered cost. They recognize the unique and exclusive function of outdoor advertising in telling their story to a nation more and more out in the open—riding the highways—swarming the streets—ever on the move—going to town.

## The Yardstick of Outdoor Advertising

The information below on outdoor advertising is taken from "Forced Air," that interesting and unique periodical published by the Advertising Committee of the Pacific Coast Gas Association. Prepared under the direction of W. M. Jacobs, Southern California Gas Company, chairman of the Sales and Advertising Section, and F. M. Raymond, San Diego Consolidated Gas & Electric Company, chairman, of the Advertising Committee, "Forced Air" made its bow last month with the first of a series of brief lessons in advertising called, "Let's Get Acquainted with Advertising."

ANY advertising campaign to be most effective should include a full or part showing of outdoor postings. Years ago the professional advertising man called them "billboards" and your guess is as good as mine just how the term originated. Ten to one P. T. Barnum was at the bottom of it with his circus "billings" on most any kind of a "board" imaginable. With the passing of years, the study of outdoor display has undergone many pleasing developments. Landscaping, distinguishing frames, mechanical animation and electrical illumination support advertising art to varying degrees of eye appeal.

The use of outdoor display by gas companies is general throughout the United States and requires an expenditure of from 5 to 15 per cent of the annual advertising budget. On the Pacific Coast even greater emphasis is given the importance of "billboards" with several companies spending as high as 17 per cent on this outdoor medium.

Despite ambitious claims of salesmen, the greatest value of an outdoor posting is continuity of impression. Naturally

it is impossible to present a detailed message on a medium which at most commands but a few seconds of attention. Depending, of course, on visibility of approach 15 words are a maximum. From samples submitted to "Forced Air" every company member of the Pacific Coast Gas Association employs outdoor postings as a tie-up medium. Its message usually carries the theme of the seasonal promotion with the very dependable expectation that it will encourage a more wide-spread reading of the newspaper message built around the same theme. As one Pacific Coast advertising man expressed it—"we use outdoor advertising to hold our campaigns together." Large national distributors use outdoor display with the one all important thought of continually reminding that "Chesterfields Satisfy" that "Buick's The Buy." More recently the larger oil companies have successfully used this medium to build good public relations. The current SHELL campaign is a good example.

For many years there existed no reputable yardstick of value as applied to outdoor advertising. Everyone expected that "billboards" were a good thing, but the efficient business man wanted to know exactly the dollar value of an outdoor posting compared with a newspaper display advertisement.

Until recently the circulation cost of outdoor advertising was guesswork. The location of poster panels and painted bulletins was a matter of each plant owner's judgment. Today, however, the Traffic Audit Bureau, by means of a rating system worked out and applied under the direction of Dr. Miller McClintock of Harvard University, has put an accurate measuring stick on the outdoor structures of most of the principal marketing

## R. W. Hendee Resigns Presidency in Oklahoma



R. W. Hendee

ROBERT W. HENDEE has announced his resignation as president of the Oklahoma Natural Gas Company effective June 1, 1936, to accept an executive position with the Colorado Interstate Gas Company, affiliated with Standard Oil Company of New Jersey, and having

its main office in Colorado Springs, Colo. The Colorado company maintains more than 700 miles of pipe lines from the Panhandle field of northwest Texas to Pueblo, Colorado Springs, Denver and other Colorado cities.

In announcing his resignation, Mr. Hendee said: "Wherever my duties may call me, I want the people of Tulsa to know that both Mrs. Hendee and I shall never forget their kindness to us. We have enjoyed having lived here all of our married life and have become devotedly attached to the people and the city of Tulsa. It is needless for me to say that it is with a heavy heart that I separate from my co-workers in the Oklahoma Natural. I have been in close and intimate association with practically all of the 700 employees during the past 15 years. I acknowledge their loyalty to me as chief executive of the company and they know of my genuine affection for each and every one of them."

## Meritorious Service Medal To Be Awarded

**F**OR the most meritorious deed performed during the year in the gas industry the American Gas Association will award the coveted Meritorious Service Medal at the annual convention in Atlantic City next October. Applications for the 1936 award should be sent to Association headquarters on or before August 1, 1936. To qualify, the deed must have been performed during the period beginning July 1, 1935 and ending June 30, 1936.

The award is supported by an endowment in memory of Walter R. Addicks, late senior vice-president of the then Consolidated Gas Company of New York, gen-

erously established in perpetuum by the will of Mrs. Addicks.

The medal is awarded for conspicuous judgment, intelligence or bravery in saving human life either in the plant or works of any gas undertaking or having to do with the handling of the materials of manufacture or of the products manufactured or distributed. It is available to an employee of any manufactured gas or natural gas or manufacturer company member of the Association.

Many individual employees, particularly in flooded areas, have performed acts of heroism and self-sacrifice in saving life and property which make them eligible for consideration. Companies are urged to investigate and file applications for those who qualify.

## New Jersey Hotel Show Features Gas Equipment



**T**HE New Jersey Gas Association sponsored a cooperative gas exhibit at the eighteenth annual Spring Hotel Exposition, Ambassador Hotel, Atlantic City, April 29-May 2.

The gas exhibit occupied a space 90 feet long, and the manufacturers exhibited the very latest equipment for hotels and restaurants. The following manufacturers were represented: Standard Gas Equipment Corporation, Detroit-Michigan Stove Company, American Stove Company, Savory, Inc., and Welsbach Company.

The range manufacturers were exhibiting ranges featuring insulated heat control ovens. New style cooking tops with automatic control were also on exhibition. Broilers with many new features such as ceramic surfaces, insulated sides and improved mechanical features, were shown. Automatic gas-fired toasters and small counter type broilers were on exhibition. All the appliances shown reflect the amount of work which has been done in re-designing and improving gas equipment for large volume cooking.

Another feature of the show was a series of attractive placards featuring such things

as dealer cooperation, the advantages of gas as a fuel in the kitchen, the result of research in the design of appliances, the economy to be effected by the use of modern appliances, and photographs of many famous New Jersey hotels and restaurants that have recently installed modern gas appliances. The exhibition drew the largest attendance ever recorded.

This cooperative exhibition was under the direction of the Special Hotel Show Committee, New Jersey Gas Association.

The accompanying photograph shows the layout of the exhibit.

## K. H. Cree Joins Research Corp.

**K**ENNETH H. CREE, formerly a member of the Association's headquarters' staff and more recently valuation engineer with Ford, Bacon and Davis, Inc., New York, N. Y., has been appointed engineer of construction for the Research Corporation, Bound Brook, N. J.

## Natural Gas Course Wins Favor

**T**HE natural gas home study course at the University of Kansas continues to find favor among those who have completed its 27 lessons covering all phases of natural gas operation. The course is offered at the university in cooperation with the Natural Gas Department of the American Gas Association.

Many grateful students have written letters of commendation to C. M. Young, professor of mining engineering, who is in charge of the course. One of the most recent is from John D. Wilkie, superintendent of the Rocky Mountain Gas Company, Casper, Wyoming, who has just finished the course. Mr. Wilkie writes:

"I appreciate very much your letter of April 17th which arrived while I was away, and wish to express my own regret at the ending of so pleasant a relationship as ours has been.

"Certainly your course on natural gas has given me a lot of information which I did not possess, and placed a proper value upon other points with which I was more or less familiar."

## J. W. Reeser Is Dead

**J**OSEPH WARREN REESER, since 1909 superintendent of distribution for the Charleston, W. Va., group of the Columbia System, died recently at his home in Huntington, W. Va. He was 66 years old.

A native of Pennsylvania, Mr. Reeser had a varied career. After engaging in the construction field of railroading for more than 12 years, he went to West Virginia in his late 20's to assist in the construction of a 20-inch gas main to Cincinnati, Ohio. Once engaged in the gas business, it was to prove his life work and in 1899 he opened, as agent, the first gas office in Ashland, Ky.

Mr. Reeser remained in Ashland but a year, his abilities as an organizer being well recognized, and in 1900 he was sent to Connellsville, Pa., to serve as superintendent of the Fayette County Gas Co. He remained there for seven years, until 1907, when he was transferred to Johnstown, Pa., where he supervised the piping of gas into the city and acted as general superintendent. That work completed, he was transferred to Cincinnati, Ohio, as superintendent of distribution in 1908.

On Thanksgiving Day, 1909, at which time the Columbia Gas and Electric Corp. took over the United Fuel Gas Co., he was transferred to Huntington as general superintendent of the latter company and had remained there continuously since that time. Later, as the property expanded, he was made superintendent of distribution of all districts in the Charleston group operating in West Virginia, Kentucky, and Ohio.

Mr. Reeser was one of the most prominently known men connected with the gas industry in the tri-state area.

## Affiliated Association Activities

### Canadian Gas Association

**H**UNDREDS of delegates are expected to take part in the 29th annual convention of the Canadian Gas Association which is to be held in Vancouver, British Columbia, July 8-10, in conjunction with the northwest conference of the Pacific Coast Gas Association. The meeting will be a cooperative affair with papers and discussions of vital topics presented by gas men representing both associations.

This is Vancouver's fiftieth anniversary year and delegates attending the convention will be able to enjoy special entertainment prepared in celebration of that event as well as many fine attractions put on for their special benefit. The annual banquet will be held on the evening of July 9.

A feature of the meeting will be the showing of the film "20 Million Years," which portrays the development of natural gas down through the ages until the present time. In addition, a playlet entitled "Selling an All-Gas Kitchen," will be presented. Still another feature will be a visit to the new all-gas model home built by the B. C. Electric Railway Company.

Papers to be presented include: Showmanship in the Gas Business, The Modern Fuel Needs Modern Advertising, Emergency Inhalator Calls, Storage of Natural Gas, Where Will Future Gas Business Come From?, Change-Over to Butane-Air Gas, Home Service in Step with Sales, Use of Temperature Statistics, and Ammonia Recovery at a Coking Plant.

Headquarters will be at the Hotel Vancouver. Summer tourist rates will be in effect on all railroads. Further information may be secured from G. W. Allen, secretary-treasurer, Canadian Gas Association, 183 Glengarry Avenue, Toronto.

### Pacific Coast Gas Association

**I**N preparation for what promises to be one of the largest and most representative gatherings of gas men ever held on the Pacific Coast, President H. M. Crawford has appointed Past-President and Past-Secretary Henry Bostwick as general chairman of the forty-third annual convention of the Pacific Coast Gas Association which will be held at the Fairmont Hotel, San Francisco, August 25 to 27.

Mr. Bostwick's committee will include C. B. Babcock in charge of entertainment; Frank Talcott, reception and attendance; E. J. Hinchey, golf tournament; E. C. Wood, transportation; Jean Frickelton, publicity; Wayne Clark, registrations; F. J. Southerland, properties; W. A.

Worthington, hotel accommodations; A. C. Joy, convention newspaper; and B. W. Reynolds, banquet. Mrs. Crawford will act as convention hostess.

The convention business program will be in charge of a committee whose members will be L. E. Green, accounting chairman; W. J. Bailey, manufacturers chairman; W. M. Jacobs, sales and advertising chairman; P. E. Beckman, technical chairman; and Alma Freeburg, women's committee chairman. E. G. McCann, chairman of the Educational Committee, will act as chairman of the Program Committee.

### Wisconsin Utilities Association

**F**RANK A. COFFIN, sales manager of The Milwaukee Electric Railway and Light Co., recently was elected president of the Wisconsin Utilities Association. Bruno Rahn, vice-president and general manager of the Milwaukee Gas Light Company, was elected vice-president.

C. E. Kohlhepp, H. J. Dropp and R. M. Houger were reelected, respectively, as treasurer, chairman of the general section, and vice-chairman of the section. There were 282 ballots cast in favor of the candidates recommended by the Nom-

inating Committee. The new officers were honored at an installation dinner May 1, when they assumed their offices for the ensuing fiscal year.

### Empire State Gas & Electric Association

By A. Gordon King

**T**HE officers and committee on arrangements responsible for the program presented to the Gas Operating Group of the Empire State Gas & Electric Association in Albany, May 8, are to be congratulated on an excellent piece of work. Under the benevolent despotism of Chairman R. R. Bogie a well-balanced program moved right along, speedily but smoothly. No small part of the success was attributable to the well-advised selection, in the case of the morning papers and the afternoon round table discussions, of timely topics.

President Acker's so-called informal talk was a masterly review of the problems confronting the gas industry and the place the operating men have in aiding in their satisfactory solution.

Dr. A. R. Powell made a striking presentation of new developments in connection with gum deposits, his address being illustrated by lantern slides. The next

## Convention Calendar

### JUNE

- 1-4 **Edison Electric Institute**  
Municipal Auditorium, St. Louis, Mo.
- 4-5 **American Petroleum Institute**  
William Penn Hotel, Pittsburgh, Pa.
- 8-10 **National Office Management Assn.**  
New Ocean House, Swampscott, Mass.
- 11 **New England Gas Association, Accounting Division**  
Springfield, Mass.
- 17-20 **American Society of Mechanical Engineers**  
Dallas, Texas
- 18-20 **Compressed Gas Manufacturers Assn.**  
Seaview Golf Club, Absecon, N. J.
- Wk. 22 **National Association of Master Plumbers**  
Buffalo, N. Y.
- 22-26 **American Institute of Electrical Engineers**  
Pasadena, Calif.
- 29-July 3 **American Society for Testing Materials**  
Atlantic City, N. J.

### JULY

- 6-8 **Michigan Gas Association—Michigan Electric Light Association**  
The Grand Hotel, Mackinac Island, Mich.

- 6-9 **American Home Economics Association**  
Olympic Hotel, Seattle, Wash.
- 8-10 **Canadian Gas Association and Northwest Conference Pacific Coast Gas Association**  
Hotel Vancouver, Vancouver, B. C.

### AUGUST

- 25-27 **Pacific Coast Gas Association**  
Fairmont Hotel, San Francisco, Cal.

### SEPTEMBER

- 7-12 **Third World Power Conference**  
Washington, D. C.
- Wk. 30 **American Transit Association**  
White Sulphur Springs, West Va.

### OCTOBER

- 19-23 **American Society for Metals**  
Cleveland, Ohio
- Wk. 26 **A. G. A. Convention**  
Atlantic City, N. J.

### NOVEMBER

- 9-12 **American Petroleum Institute**  
Stevens Hotel, Chicago, Ill.



speaker was F. F. Ingwall of Binghamton who told the story, assisted by drawings and slides, of how the companies of the State in the flood area met and eventually overcame the literally devastating conditions created in the districts of supply. Mr. Linn Bowman of Rochester reviewed gas holder maintenance practice.

The morning was all too short to permit of adequate discussion of the interest-compelling material contained in the addresses above referred to.

Immediately after luncheon, the round table convened and informal discussion and exchange of information and ideas took place on the subjects of distribution design, as reflected by extreme cold weather, its effect on services, gas meter performance and several other thought-provoking topics of immediate interest to the operating gas man in all of the branches of his work.

The total attendance was 94, a breakdown of which shows 87 delegates representing 25 gas companies and the remaining 12 representing 6 manufacturing companies.

E. Herringshaw, Consumers Power Company.

The tentative program also calls for a discussion of the Activities of the Association of Gas Appliance and Equipment Manufacturers by John A. Fry, president, Detroit-Michigan Stove Company.

The Entertainment Committee is headed by Mr. and Mrs. Howard Pett, Consumers Power Company, Lansing.

Room reservations at the Grand Hotel will be made through the secretaries of both associations shortly after June 1.

## New England Gas Association

**T**HE meeting of the operating division of The New England Gas Association, which was held at Swampscott on Friday evening and Saturday morning, May 15-16, was well attended. Both sessions presented strong programs.

The evening session presented President F. L. Ball who discussed current trends in gas company operation and who indicated that the production men could help to secure lower production costs which, in turn, would facilitate the establishment of desirable promotional rates. There were four short papers on special corrosion-resisting materials for corrugated roofing and siding, five papers on materials for holder hose, seven papers on preventing excess production of breeze and small coke, and a high-spot summary of the recent Memphis distribution conference. L. E. Knowlton's paper on breeze and small coke was outstanding.

The morning session presented six speakers who described from an operating standpoint the flood experiences of the New England companies, each speaker covering a definite area and having received the cooperation of the companies in that area in preparing his material. A seventh speaker, having received these papers in advance, summarized the lessons which had been learned and the effective methods which had been used during the flood. Four speakers assisted the "regional speakers" by presenting the material covering their own companies.

Comments following this session indicated that considerable valuable data appeared in the flood papers and that they would constitute a helpful reference when printed in "The New England Gas News." Nearly 100 photographs, supplied by the companies concerned, and mounted on cardboard by the Association staff, were displayed, attracting considerable attention.

Chairman John A. Weiser of Newport presided.

### Accounting Division Meeting

The accounting division of the New England Gas Association will hold its summer meeting at the Hotel Kimball in Springfield on Thursday evening, June 11. H. W. Greenhalgh of the New England Power Association will present a paper covering in detail several methods which

can be used in showing the consumption and costs of gas at the various rate steps. This information must be shown on all residential gas bills sent out in Massachusetts after January 1, 1937.

A paper on "Humanizing Customer Contacts" will be presented by Clark Belden, executive secretary of the New England Gas Association, based on study and observation of gas company practices.

"A Customers' Ledger System for Small Companies" is the final paper to be presented and is being prepared by Ralph B. Johnson, assistant treasurer, and J. L. Underhill, general manager, of the North Attleboro Gas Company. All of the papers are designed to be of practical value to the accounting division members and cover subjects of current interest.

In addition to the papers, moving pictures of flooded areas in various parts of New England will be shown.

## Michigan Gas Association

**H**ERMAN RUSSELL, president of the Rochester Gas and Electric Corporation, Rochester, N. Y., and vice-president of the American Gas Association, will be one of the principal speakers at the annual meeting of the Michigan Gas Association at Mackinac Island, Michigan, July 6-8. Mr. Russell, who was chairman of the Committee on National Advertising, will discuss the "National Gas Advertising Program."

The meeting will be held jointly with the Michigan Electric Light Association.

In addition to Mr. Russell's talk, the tentative program for the gas meeting, announced by A. G. Schroeder, secretary, includes the following: Reports on the "Gas Fellowship at University of Michigan" by D. W. Hayes, chairman, Fellowship Committee, and Professor Alfred H. White, director of research work; "Training Employees" by M. D. Read, Michigan Fuel and Light Co.; "What about This Water Heating Business," R. J. Canniff, Pittsburg Water Heater Company; "Building the House Heating Load with Natural Gas" by Dean W. Flowers, vice-president and general manager, Muskegon Gas Company; and "High B.t.u. Gas to Supplement Natural Gas Supply" by D.

## Missouri Association of Public Utilities



C. E. Michel

**C.** E. MICHEL, sales manager, Union Electric Light & Power Co., St. Louis, Mo., was re-elected president of the Missouri Association of Public Utilities at the annual convention of the Association held April 29, 30 and May 1 in St. Louis at Hotel Jefferson.

Other officers

elected were: First vice-president, Ben C. Adams, Gas Service Co., Kansas City, Mo.; second vice-president, E. H. Lewis, St. Louis County Gas Co., Webster Groves, Mo.; third vice-president, Chester C. Smith, Kansas City Power & Light Co., Kansas City, Mo.; treasurer, Hermann Spoehrer, Union Electric Light & Power Co., St. Louis, Mo.; secretary, N. R. Beagle, Missouri Power & Light Co., Jefferson City, Mo.; managing director, E. A. Beer, Jefferson City, Mo.; assistant secretary, Jesse Blythe, Jefferson City, Mo.

The following Executive Committee was elected: E. P. Gosling, St. Louis, Mo.; L. W. Helmreich, Jefferson City, Mo.; T. J. Strickler, Kansas City, Mo.; D. W. Snyder, Jr., Jefferson City, Mo.; Fred Karr, St. Joseph, Mo.; O. F. Funk, St. Louis, Mo.; A. E. Bettis, Kansas City, Mo.; R. G. Taber, Cape Girardeau, Mo.

The association membership includes virtually every privately owned gas, electric and water utility in Missouri. A total of 237 delegates were registered, of which 68 were women.

The speakers on the program and their subjects were: "Through the Years in the Gas Industry," L. B. Denning, Dallas, Texas, president of the American Gas Association; "Electricity in the Olden Days—and Now," Alex Dow, Detroit, Mich., president, Detroit-Edison Co.; "Welcome to St. Louis," E. P. Gosling, St. Louis, Mo., president, Laclede Gas Light Co.; "Rural Electrification in Missouri," D. W. Snyder, Jr., Jefferson City, Mo., president, Missouri Power & Light Co.; "Why Home Service Women?" Miss Frances Weedman, Chicago, Ill., General Electric Appliance Corp.;

"A Few Remarks," Louis H. Egan, St. Louis, Mo., president, Union Electric Light & Power Co.; "Looking Backward To See Forward," Gardner S. Howland, Chicago, Ill., Commonwealth Edison Co.; "More Safety, Less Accidents," J. M. Strike, St. Joseph, Mo., St. Joseph Railway, Light, Heat & Power Co.; "Service," H. T. East, Chicago, Ill., Public Service Company of Northern Illinois.

An Employees' Speaking Contest was held on the evening of April 29. The subjects were: For men, "The Utility's Part in the Development of the Community"; for women, "The American Home—How the Utilities Help Build It." The winners were: Women, first prize, Miss Dolores Milburn, Union Electric Light & Power Co., St. Louis, Mo.; second prize, Miss Lillian Butterfield, Central Distributing Co., Kansas City, Mo. Men, first, Vall G. Herber, Gas Service Co., Kansas City, Mo.; second, Fred M. Sholders, Kansas City Power & Light Co., Kansas City, Mo.

Fred H. Luecke, Warrensburg, Mo., president of the Missouri Public Service Co., presided at the Open Forum held on the evening of April 30. Three subjects were discussed by speakers, followed by questions from the floor. The subjects were: "Hazards to Water Supply Due to Faulty Plumbing," "Outdoor Metering," and "Rental or Trial Period Experience with Load Building Appliances."

The time and place of holding the next annual convention will be selected by the Executive Committee at a meeting probably in December.

### Maryland Utilities Association

THE following new officers of the Maryland Utilities Association were elected at the annual meeting of the association held in Baltimore, Maryland, May 1: President, F. A. Alexander, Conowingo Power Co., Elkton, Md.; vice-president, D. E. Stultz, Potomac Edison Co., Hagerstown, Md.; treasurer, R. F. Bonsall, Consolidated Gas, Electric Light and Power Co. of Baltimore, Baltimore, Md.; and secretary, E. J. Hand, Conowingo Power Co., Elkton, Md.

All future communications to the association should be addressed to the newly elected secretary, E. J. Hand.

### Florida and Georgia Gas Group Organized

REPRESENTATIVES from Florida Public Service Company, Central Florida Gas Corporation, Florida Power and Light Company, St. Augustine Gas Company, Clearwater Gas Company, Ft. Myers Gas Company, Florida Public Utilities Company, Southern Gas and Electric Corporation, Jacksonville Gas Company, and Savannah, Georgia Gas Company met in Clearwater, Florida on April 14 and 15 and formed an association to be known

as The Gas Meters Association of Florida and Georgia.

The following officers were elected: V. W. Kennedy, Florida Public Service Company, Orlando, president; J. W. Owens, Central Florida Gas Corporation, Winter Haven, vice-president; and R. O. Berry, Jacksonville Gas Company, secretary and treasurer.

The purpose of the meeting was to formulate an organization of all the manufactured gas properties in Florida and South Georgia. It was decided to meet twice a year at some central location in Florida for a two-day meeting in order to exchange ideas and discuss problems on merchandising, distribution and plant operation. It was also decided to invite all appliance representatives to participate in the meetings on the same basis as representatives of the companies. The first meet-

ing will be held the early part of September.

The following representatives were in attendance: C. J. Noda, St. Augustine Gas Company; V. W. Kennedy, Florida Public Service Company; H. K. Burnett, Robert Jones, Ted Burgman, P. L. Ellis, C. R. Johnson, Florida Power and Light Company; J. W. Owens, Central Florida Gas Corporation; C. L. C. Kah, Florida Public Utilities; A. J. Lawlor, Southern Gas and Electric Corporation; Carlton Van Devort, Ft. Myers Gas Department; A. C. Nichols and G. G. Greer, Clearwater Gas Department; R. F. Daugherty, Savannah Gas Company and R. O. Berry, Jacksonville Gas Company. The A-B Stove Company and Handley-Brown Water Heater Company were represented by W. O. Weeks and H. A. Sebal. Electrolux was represented by Chris Marsden.

## Sporney Wins McCarter Medal



Scene at presentation of McCarter medal to Francis A. Sporney. The men in front of the doors are, left to right: H. R. Cook, Jr., general superintendent; John Paznekas, employee who was resuscitated; Mr. Sporney, Herbert A. Wagner, president; and J. H. Wolfe, superintendent, gas manufacturing

FRANCIS A. SPORNEY, employee of the Consolidated Gas Electric Light & Power Company of Baltimore, was honored on Wednesday, May 6, by being presented with a McCarter Medal. Herbert A. Wagner, president, made the presentation before the gathered personnel of the entire gas plant.

In presenting the medal Mr. Wagner reviewed the circumstances under which Francis Sporney won the honor.

Thursday, October 10, 1935, at about 10:45 A.M. two employees, John Paznekas and William Robbins, had entered a Company manhole at Fortieth Street and Keswick Road for the purpose of inspecting and making minor adjustments on equipment in the manhole.

John Paznekas was affected by gas and through the efforts of William Robbins and Francis A. Sporney and other men, was rescued from the hole but was found to be overcome by gas which was leaking from a governor diaphragm which had

failed or ruptured. When Paznekas was brought to the surface, Francis Sporney immediately began the prone pressure method of artificial respiration and was successful in reviving John Paznekas. After resting for a few days Paznekas was able to return to his regular duties none the worse for the accident.

In recognition of Francis Sporney's prompt action and his useful knowledge of the prone pressure method of artificial respiration, the American Gas Association awarded the McCarter Medal and a certificate.

Mr. Wagner further commented on this case by saying, "I cannot too highly commend Mr. Sporney for his fine act of heroism in this unfortunate accident. It is a fine example for the rest of our forces. We do all we can to encourage all our men to be as careful and thoughtful as possible of the lives and welfare of all their associates. A life is something that cannot be repaired nor compensated for."

## Accounting Section

F. L. Griffith, Chairman

H. W. Hartman, Secretary

E. J. Tucker, Vice-Chairman

# Survey of Customers Who Move Without Notice

ALL utilities serving metropolitan areas and medium size cities are confronted with the problem of tracing customers who move without notifying the company and leave unpaid bills.

The executive asks the following questions:

- Which type of customer falls in this class?
- What are the circumstances surrounding the use of service by those customers at new addresses?
- What are the possibilities and feasibility of locating such customers at new addresses as a regular practice, and is it economical to do this?
- How can they be prevented from obtaining service at new addresses without paying amount due or making adequate deposit for future protection against losses?

In an attempt to answer these questions an exhaustive survey was made by the Philadelphia Electric Company for a period of one month in one of its districts serving 103,000 customers in an area of 25,943 square miles.

During this period, 81 properties were reported vacant. Following is a tabulation of the source of these reports:

Source	Number Reported	Results of Investigation	
		Continue Billing	Actually Vacated
Meter readers	50	12	38
Bill deliverers	21	10	11
Collectors	6	2	4
Mail returned by post office	4	1	3
Total	81	25	56

In 25 cases, though having the appearance of vacant houses when originally reported, service was left on in the course of further investigation.

The 56 customers who had actually vacated their homes form the basis for further analysis. From these cases sufficient accurate information has been obtained to present an approximate picture of customers who move without notice, the general practices adopted by these customers, and the purposes, if any, which lie behind their moving.

The typical customer vacating his home without notifying the company of his new address is an American, having rented his home in a good respectable neighborhood. He is of moderate financial circumstances; his monthly use of gas is approximately 2,000 cubic feet. He will have been liv-

By R. T. DUDREAR

Philadelphia Electric Company

ing in the home just vacated for two years or less, and in all probability his period of residence will have been less than six months. In order to effect collection of bills while using service, a discontinuance notice and collector's call is necessary, and justly so, for his reputation can be deemed questionable. He does not resort to the subterfuge of moving at night, but openly moves during the day to a new address within the same neighborhood. He leaves a balance owing to the company considerably in excess of his deposit, if he has one, though he probably will not have a deposit. His former neighbors will cooperate with the company in finding him and he can be located at his new address.

The analyses on which the above picture is based follow and illustrate other probabilities which occur in a less frequent number of cases.

Distance Moved from Vacated House	Number	Percentage
Within area of same meter reading book	6	55.4
Within same or adjacent reading route	18	
Within same company district but in a distant reading route	7	
To another district of the company	10	17.8
Beyond company lines	6	10.7
Total customers located	47	83.9
Total customers not located	9	16.1
Total cases followed	56	100.0

### Circumstances Surrounding Use of Service at New Address

Of the 47 customers who were located at new addresses, the following circumstances surrounding their present use of service and the deposit and final bill situation as left at the former address were found:

### Means of Obtaining Service

Service supplied by apartment house, by another customer, or beyond system lines  
Service used in name of relative or under different name, new application coincident with reporting vacant at previous address  
Use service in same name

Total located  
Not located

Two outstanding classifications of customers, with respect to the length of time they had occupied the homes recently vacated were disclosed in a study of the office records.

55%	16 had occupied their homes less than six months.
	2 had occupied their homes between six months and one year.
5%	13 had occupied their homes between one and two years.
	3 had occupied their homes between two and five years.
40%	22 had occupied their homes more than five years.

Other data, recorded and analyzed, follows:

Type of Neighborhood	Condition of House
Poor	4
Fair	20
Good	30
Excellent	2
	56
Status of Occupancy	Payment Classification by Collection Department
Tenant	40
Owner	11
Unable to determine	5
	56
Poor	10
Moderate	43
Good	3
	56
Financial Circumstances Based on Neighborhood, Condition of House, etc.	Estimate of Character Based on Opinion of Neighbors, Agent, and Office Records
Poor	10
Moderate	43
Good	3
	56
Negroes	11
Foreigners	9
Americans	36
	56
Honest	24
Questionable	30
Dishonest	2
	56
Best Source of Information	
Neighbors	39
Agents	6
Corner store	—
Tradesmen	—

Former Deposit Sufficient to Cover Former Bills	Final Bill in Excess of Deposit	No Deposit at Former Address	Total
3	10	18	31
—	3	7	10
1	1	4	6
4	14	29	47
3	2	4	9
7	16	33	56



## An Open Invitation to Accounting Section Members

By T. S. Lever, Jr.

The Philadelphia Gas Works Co., Philadelphia, Pa.

Moving company	1
Other local utility companies	1
Not answered	10
	56
Attitude of Neighbors toward Investigations When Interviewed	
Suspicious	1
Neutral	10
Cooperative	45
	56
Time Moved Ascertained from Neighbors	
Before noon	3
Afternoon	30
Night (or very early morning)	5
Unable to ascertain	16
	56

### Is it Economical To Trace These Customers?

In the following up of the 56 cases investigated, 381 calls were made, or an average of 6.8 interviews to complete each investigation. The percentage of customers located during this survey period was much higher than under normal operating conditions and was possible only because of the exhaustive efforts made in every case. It is, therefore, readily apparent that such exhaustive investigation could not be undertaken economically either by the shut-off man or by one man assigned permanently to such a job.

### Shall an Exhaustive Investigation Be Made When Accepting Applications from New Customers?

The next phase of this survey deals with a study of applications from customers who state that they did not have service contracts at the address from which they are moving.

When applications are received from such customers, it is a regular practice of the company to request the address from which the customer is moving and the last address where he had a contract for service. The uncollectible bill file and former addresses given are checked and if there are no past due unpaid bills or contract in the name of the applicant found, service is granted after guarantee deposit or credit requirements are met.

During the survey period, additional information shown below was requested to determine whether customers were giving correct information.

- In whose name was service used at former address?
- Name of employer. (If unemployed and obtaining relief from any agency, the name and address of office of the agency.)
- Former landlord's or agent's name and address.
- New landlord's or agent's name and address.
- If former address is outside of territory served by the company, obtain name and local office address of utility serving the customer.

If the first two questions were answered satisfactorily, no further information was requested.

There were 477 applicants who stated that they did not have contracts at their

**T**HE success of the Luncheon Tences of the Accounting Section has definitely placed this phase of convention activities in a permanent place on the program. The Luncheon Conference Committee finds it more and more difficult each year to confine the material suggested for discussion to the time allotted. An idea of what this means is given below in the tentative agenda for the Office Management Conference Luncheon.

It is the opinion that, with the probability of a much larger attendance this year than ever, the topics to be undertaken for discussion, in order that the subjects chosen may be thoroughly covered, should be carefully picked and restricted in number. Those expecting to attend are invited to submit, in advance, a subject in which they are particularly interested.

The Office Management Committee has suggested certain topics, such as the value and feasibility of "Systems" bureaus; the use of manuals in job training; the tangi-

ble results of soundproofing and air conditioning; the economy, scope, and operation of Internal Audit Bureaus, and the

rotation of clerks to obtain flexibility. Other suggestions have been the selection of general forces; the training of all classes of employees; scientific wage and salary administration and financial incentives; health control and accident prevention; employees' service plans; and leadership and supervision in industry. A popular vote at the conference will determine the major subjects to be discussed.

During the past few years the American gas industry has given special emphasis to personnel problems, the significance of which is evidenced by the fact that these problems were discussed as major topics at all sections of the last convention. Likewise, this phase of management was selected for the presentation of the Monroe Award.

Lest you forget, jot this down on your calendar—Wednesday, October 28, 1936, at the Ritz Carlton Hotel, Atlantic City.



former addresses. Personal interviews or correspondence with the references obtained to verify the correctness of the information given by the customer in every case would not only have required too much time but would also have been impossible in some cases.

Investigation was therefore limited to checking office records and those references who could be reached by telephone. Two hundred and ninety-two cases were investigated in this manner. In this group, which may be considered as representative of the entire 477 cases, there were only six cases in which incorrect information was given or which were questionable. Only one collection of a small unpaid balance due from a former address was effected.

Of course, we must recognize the fact that fictitious names may have been used, that other members of the families or relatives may have made application in their names, and that employers or landlords may have cooperated with the customer instead of the company, but it would be impossible to establish a foolproof system to

overcome all of these possibilities. In addition, the public utility is obliged to serve all who meet uniform requirements as stated in a tariff of rates, filed with and approved by a Public Service Commission.

### The Answer to the Executive's Questions

The results of this survey have shown that:

- The type of customer falling in this class is varied and cannot specifically be classified under any group or neighborhood.
- In the great majority of cases, this customer is supplied with service through a master meter in the name of the owner of an apartment house or through a friend or relative. In very few instances is the customer found to be with service in his own name.
- Although an exhaustive investigation will locate most of these customers, it is not economical to make a regular practice of locating him in this way. Any endeavor other than reasonable

(Continued on page 241)

## Commercial Section

C. E. Bennett, Chairman

J. W. West, Jr., Secretary

F. M. Banks, Vice-Chairman

# Development of Dealer Sales—An Executive Responsibility

By HAROLD F. SMIDDY

Ebasco Services Incorporated,  
New York, N. Y.

**T**HIS paper is founded on the basic premise that this is a gathering of gas utility executives who are interested in sales problems from an executive standpoint. As such, you have broad responsibilities,

*First*—for making and delivering a satisfactory product, namely, good gas service

*Second*—for pricing it to sell satisfactorily, which means that your gas rates must both be promotional in design, and also competitive in level considering the quality of the service you are selling

*Third*—for selling that gas service in the greatest volume which is profitable in the territory you serve.

Your sales policies must be designed to accomplish this latter objective, and your sales staff must be organized for this primary purpose, to the end that the revenues of your company may be steadily increased. If you are not looking upon your Sales Department in these fundamental terms—and particularly if by any chance you may have been considering it only as an outlet for selling gas appliances—I am afraid you are likely to find little to interest you in the balance of this paper.

### Sell "Value" and "Use"

Assuming, however, that we are all in accord that the function of a utility sales department is to sell the *value* and *use* of your gas service to your customers, let us review first how well or poorly this job is being done. If we are impartial about this, I fear we must acknowledge that most of our present utility sales programs are colossal monuments to inadequate selling. In the residential field, our customers pay, by and large, an average of about 12¢ per day, and some two-thirds of them less than nine cents per day. The amounts which they pay us for gas approximate less than 5% of their bill for food.

In the great majority of commercial establishments, the gas bill is a relatively small item compared, for instance, with the wage of but a single clerk. In a high percentage of industrial establishments the cost for gas service is but a few per cent of the total cost of the product. Plainly, notions about "saturation" are ridiculous, and we might as well face the fact that our failure to make progress more satisfactorily comes back directly to our own failure to understand and apply the basic technique of modern creative selling.

Paper delivered at convention of Natural Gas Department, Dallas, Texas, May 5-8, 1936.

In giving testimony, it is usually customary first to "qualify the witness." Perhaps it is in order, therefore, to say that these observations are based upon personal experience gained through years of cooperating closely with executives like yourselves in over thirty major utilities in all parts of the country. The gas operations for which these men are responsible produce yearly revenues of about \$48,000,000 and annual sales of over 250,000,000 M cu.ft. Service is supplied to some 500,000 gas customers. And incidentally, direct company sales of gas appliances amount to several million dollars yearly. The operations of these companies cover all ranges of climate, geography and other local conditions. They include both manufactured and natural gas utilities; as well as straight gas, straight electric and combination companies. This background is cited, however, only to indicate that while the opinions offered are strictly personal and are intended only for your study and thought—certainly not as panaceas or cure-alls—they are really based upon close observation of gas operations of a sufficient scope and diversity to be typical of those which you gentlemen direct.

### Why Executive Assistance?

Perhaps you are wondering when, if ever, we are coming to the main subject of this paper, namely "Development of Dealer Sales." Before reaching it, however, I want to make clear that the objective here is to suggest "Why" executive insistence on such development is necessary in every territory. The mechanics of "How" to do the job can safely be left to your sales organizations if you will see that suitable policies and definite goals are set out before them.

The simple figures already cited to show the small part which the gas bill plays in the average customer's budget, bear eloquent testimony to the very limited job that we have all done in selling our service. All of us are equally familiar with the sad fact that generally we have been little more successful in selling the public on ourselves, our companies, or our general value in the social structure. The present well-known plight of both gas and other utilities makes it perfectly clear that it is high time for us all,

*First*—to appreciate that in many respects both our competitors and our critics have done a better job than we in selling the public,

*Second*—to realize that successful selling is a basic specialized job, not a lot of haphazard guesswork, and that it is worthy of the best executive brains and attention that you gentlemen can bring to the problem, and

*Third*—to begin developing a better understanding of crowd psychology and of how to effect the opinions and habits of the masses of people who are our customers.

Before trying the latter, however, it is perhaps necessary for us to go even further and try to define such a simple thing as what we mean by selling. One definition with which you may be familiar is that selling is merely trying through one human being, the salesman, to change the mind of another human being, the customer. This is personal salesmanship. However, the basic objective of changing people's minds remains the same when we resort to salesmanship in print—or advertising.

It is only when we appreciate the extent to which human relationships enter into selling that we can understand, and perhaps even have the patience to be reconciled to, the fact that real progress is necessarily slow.

It is unnecessary to emphasize further that such progress is slow. Our figure of 12¢ per day per customer is ample proof, but you have only to look, for instance, at the meager saturation figures which the industry has attained with respect, say, to selling water heating service, after some seventy-five years or so of history, to emphasize the point.

When it comes to changing people's minds, we face twin obstacles, both of major proportions. The first is the natural inertia which causes every one of us to cling to our old habits and to resist change of such habits in any particular. The second is the competition we always face from all of the other people who are trying to sell their service or their products in such volume as to secure that portion of the customer's budget which we hope to have set aside to pay for gas service. It is plain that in the face of such twin obstacles, creative work and salesmanship of the first order are necessary to do the fundamental selling job of establishing wide public demand and wide public markets for our gas service.

Now, when it comes to changing people's minds and to figuring out how much time, money and effort are necessary to do the job, the very first point to keep in mind is that there are an awful lot of people. Reading a newspaper a few weeks ago, I came across a column by Bruce Barton headed "Fourteen Hours." For the first time he had just completed the experience of flying clear across the continent and back, actual flying time each way being but a little more than fourteen hours. Mr. Barton went on to note that one could write many essays on this experience. He reflected on some of the subjects which might be covered in such essays, but after rejecting them he wrote as follows:

"But the thought that kept recurring to me was of the immensity of this country and the diversity of its busy interests. We passed over States interested mostly in manufacturing; States interested in cotton; States interested in wheat; States interested in silver. Sometimes we flew so low that it was possible to look down and see the citizens scurrying around about their multitudinous affairs.

"And I thought of the men who sit in directors' rooms and make their plans to excite these millions of minds about a certain product. And of other men who sit in some club and say 'We ought to get the American people to think so and so.'

"There are one hundred and thirty million of these American people and they have an awful lot on their minds besides the things the advertisers and the propagandists want to put there. Trying to persuade them to think *this* or to do *that* is a whale of a job. This is something one learns all over again in an airplane trip of fourteen hours."

Now, perhaps you think that Mr. Barton was talking of an area or a territory broader than that about which you must be concerned, but gentlemen, there are an awful lot of people in your own territory! Your salesmen who leg it around that territory, day in and day out, can tell you so.

#### Sales Coverage

Have you ever stopped to figure out just what a job it is to try and cover your customers with the sales force which you have provided? Let us take an example. Assume, for instance, that you have one direct salesman calling on the homes in your territory for every 1,200 customers you serve. That is pretty good coverage, incidentally. Now assume that each of them makes about 12 sales calls per working day, or some 300 calls per month. Some of you gentlemen may have pushed door bells and you, at least, will admit that making 300 sales calls per month will leave very little spare time. Now, if you figure out the hours in a working day, it is not hard to compute that thirty minutes per call on the average is just about the best your sales fellow can do.

Summing it up, with quite good sales coverage such as that assumed, these sales fellows of yours see maybe one or two members of each family for about half an hour, not over four times per year. This is the time in which you expect the sales-

man to revolutionize the thinking of his customers and to change the habits of their families which have been built up over twenty-four hours per day, 365 days per year, for years and years and years. Gentlemen, if you double that sales force or triple it, it still isn't in the cards to get the answers you want in the way of increased gas sales and revenues through such means alone, in the face of all the other sales claims which are made on the time and minds of your customers and in the face of that human inertia with which we are all so amply blessed.

It is plainly to be realized then, that to sell new ideas to the public, we must rely upon time, experience and persistence. And even at best, the ideas which we can expect to have accepted must be simple; and must be symbolized and dramatized to get across at all.

#### Study of Popular Mind

What then are the means which are used to secure action from large bodies of people when leaders desire to get them to change their minds? I wish that time permitted, that I might read to you some passages from a little book by Gustave LeBon, entitled "The Crowd, a Study of the Popular Mind," not only as excerpts from a fine treatise on the most basic principles of salesmanship, but as a liberal aid to understanding some of the wider public problems with which we all are faced today. I am sure you would find this little book of tremendous interest. Suffice it, however, for me to quote briefly from one of the latter chapters of the book entitled "The Means of Action of the Leaders:—Affirmation, Repetition and Contagion." After explaining how crowds, or great classes of people, may be stirred up for a short space of time, the author goes on:

"When, however, it is proposed to imbue the mind of a crowd with ideas and beliefs—with modern social theories, for instance—the leaders have recourse to different expedients. The principal of them are three in number and clearly defined—Affirmation, Repetition and Contagion. Their action is somewhat slow, but its effects, once produced, are very lasting.

"Affirmation, pure and simple, kept free of all reasoning and all proof, is one of the surest means of making an *idea* enter the mind of crowds. The conciser an affirmation is, the more destitute of every appearance of proof and demonstration, the more weight it carries. The religious books and the legal codes of all ages have always resorted to simple affirmation. Statesmen called upon to defend a political cause, and commercial men pushing the sale of their products by means of advertising, are acquainted with the value of affirmation.

"Affirmation, however, has no real influence unless it be constantly repeated, and so for as possible in the same terms. It was Napoleon, I believe, who said that there is only one figure in rhetoric of serious importance, namely, repetition. The thing affirmed comes by repetition to fix itself in the mind in such a way that it is accepted in the end as a demonstrated truth. The influence of repetition on crowds is comprehensible when the power is seen which it exercises on the most enlightened minds. This power is due to the fact that

the repeated statement is embedded in the long-run in those profound regions of our unconscious selves in which the motives of our actions are forged. At the end of a certain time we have forgotten who is the author of the repeated assertion, and we finish by believing it. To this circumstance is due the astonishing power of advertisements.

"When an affirmation has been sufficiently repeated and there is unanimity in this repetition—as has occurred in the case of certain famous financial undertakings rich enough to purchase every assistance—what is called a current of opinion is formed and the powerful mechanism of contagion intervenes. Ideas, sentiments, emotions, and beliefs possess in crowds a contagious power as intense as that of microbes."

Now with respect to this passage which I have just quoted, gentlemen—and incidentally with respect to many others in the book dealing particularly with the means by which political bureaucracies possessed of irresponsibility, impersonality and self-perpetuity can operate to achieve progressive restriction of liberties through incessant creation of restrictive laws and regulations, surrounding the pettiest actions of existence with the most complicated formalities—you will perhaps be interested to know that Mr. LeBon wrote his little book in 1896. Now, some forty years later, we are still trying to learn his simple principles—which even then were not very new. Perhaps this example in itself is good evidence that changing people's minds is a job which requires at best a lot of time, even when we bring to bear upon the problem the fullest possible coordination of all available allies.

#### Dealers Indispensable

And so, gentlemen, it must be plain that development of dealer sales is an executive responsibility and that it is a prime necessity. In fact, it is the only way to do our sales job at all. Because it is the only way in the long-run by which we can bring to bear upon our sales problems the requisite money and the requisite manpower even to hope for success. It is the only way to reach all of our customers of all classes and all income levels, in any reasonable time and with any effective consistency.

The best estimates I have seen indicate that at present the dealers are now selling not less than two-thirds of all the Residential appliances which are being connected to use your utility service. Plainly, the dealers are indispensable, no matter how much—as was stated by one of their own members at a recent gas sales conference—they may need, "Teaching, Nursing and Inspiring." Their very numbers are important. Based on data covering the utility companies with which I am most familiar, the dealer sales people directly engaged in the sale of appliances are sufficient in numbers to multiply our total sales department personnel (including supervisors, promotional and advertising people, salesmen of all classes and clerical staffs) approximately eight times. They multiply our direct sales forces (that is, those who are in immediate specific sales contact with



our customers), approximately fifteen times. Surely, allies of this strength can be of the greatest help, if we can but win their confidence and support in our sales efforts.

I will not labor further the point, therefore, that development and coordination of dealer sales is a necessity. Before closing, however, I would like to say a few words to you gentlemen, as executives responsible for policies, to indicate what our experience seems to prove to be the fundamental requisites for success of utility plans for greatest development of coordinated dealer sales.

In the first place, the basic procedure seems simple. To begin with, get the facts with respect to the dealer situation in your territory. Find out how many of them there are and find out honestly what they think about you and why. Then evolve a sales plan with definite objectives. Visualize and dramatize the opportunities which your plan presents to the dealers, through achievement of the potentials at which it aims. Of course, follow the plan. And finally see that the progress you achieve is publicized and made known to all, because it is true in this work, as in all other, that nothing succeeds like success.

#### *Square Deal for Dealers*

Second, in following out such a basic procedure, let me suggest another fundamental point, namely, that all of your policies be so set that the dealers who cooperate can make some money. This applies both to pricing appliances, and also to following sound and ethical business practices with respect to the terms upon which they are offered for sale. Spectacular short-cuts or panaceas may seem like a good idea at the time, but in the long run, it is better to remember that changing people's minds is a slow process at best, and that panaceas are likely to defeat your basic objectives if they try to jump ahead too fast. In all of these matters, it is of much more importance that you understand the dealer's viewpoint than that he understand yours, if you are both to succeed in increasing your sales to the public which you serve.

Now for a third point. It is so important that if you do not heed it, failure for your plan can be practically guaranteed. The point is simple. Namely, be sincere. Then you must sell your sincerity, first to all of the employees of your own company, and then to the dealers to gain their confidence. In this respect, let me say that in the first rank among your employees who must be convinced of your sincerity, are your own salesmen. One of the first steps you must consider is the form of their compensation. If you base the earnings through which they must support their wives and children upon a commission on gross volume of merchandise sold by them personally, you may depend upon it that the family will eat whether the dealers get cooperation or not. If you base their compensation upon the success with which they work towards your basic objective of in-

creasing sales of gas, regardless of the channels through which the appliances may move into your customers' homes, it will be practical evidence of your sincerity, both to employees and dealers. And remember that the need for time and persistence in selling *any* idea is just as great in selling your sincerity to the employees and to the dealers, as in selling to your customers the idea that they can profitably use a far greater amount of gas.

Fourth, and finally, in the practical working out and operation of your plan for development and coordination of dealer sales, perhaps these few fundamentals will help:

(1) Assign definite responsibility in your own organization for development and supervision of the program.

(2) Assign specific personnel to carry out the program. Trained people are necessary if contacts with dealers are to be constructed and effective.

(3) Work to a written schedule, budgeted and programmed every year; and made up in advance, with your objectives for the period plainly defined.

(4) Gear this dealer sales development program in rigidly as a major component part of your whole utility sales and advertising plan.

(5) Provide definitely for the important part which the manufacturers and jobbers can play in the program, both in establishing more and better dealer outlets, and in stimulating all outlets to get the highest possible volume of sales.

(6) Cover all dealer outlets, and bring to them plans which they can really use. Bring them such practical and specific aids as sales training, assistance in conducting their business more profitably, and programs which will help them to bring more customers into their stores.

(7) Aim specifically at getting all of the dealers to use your utility advertisements and campaigns as a nucleus for a far greater volume of ads and coordinated selling on their own part.

(8) Remember the importance of the time element to insure success of coordinated efforts. You need time to make your plans in sufficient detail to be successful. You need time so that they may be announced far enough in advance so that all concerned can have time to understand them and to back them. You and the dealers need time to carry through meetings, training courses, advertising preparation, purchase and display of merchandise and similar innumerable details.

(9) In all of your coordinated efforts, aim definitely at making the public in your territory conscious that something important is going on. Take advantage of the tremendous power of coordinated displays, publicity, home service gatherings, and demonstrations.

(10) Use a dealer bulletin, issued regularly and at definite dates. Use it not only to serve as a binder for getting aggressive, concerted action according to your plan, but use it first, as a routine vehicle to insure that your own ideas are well thought out. If you are going to put ideas in print, you first must have the ideas.

And in such a bulletin, deal with sales. Make every issue newsworthy. Make your articles simple and short. Use headlines, cartoons, even pictures, to gain attention. Leave

out the big "I," "We" and "Us." Put in the names of the dealers and their sales people. Humanize, localize and personalize your bulletin. And make every issue serve a specific and constructive purpose.

(11) Finally, get regular and accurate dealer reports; both as a source of facts through which you can plan to spend your budget in a manner that will be most helpful and successful from the standpoint of the dealers, as well as your company, and also as a source for preparing consolidated reports from which the manufacturers, jobbers and dealers themselves may know the magnitude of the market available to them, and the share of the aggregate business available which their efforts currently are bringing to them.

You have already heard at these meetings of the fact that the national advertising program approved at the Chicago convention of the American Gas Association last fall, is now an assured activity which will shortly be in full operation. This national cooperative program is first-class evidence of the fact that you gentlemen, and other executives like you in this great gas utility industry, appreciate the necessity of, and the power of, coordinated effort if we are to achieve the sales of gas service which are so urgently necessary.

May I say in finishing that this national advertising program offers you an unparalleled opportunity to review the steps which you have heretofore taken to apply similar principles of sales coordination to obtain the most effective joint action of all the members of our great industry within your own territory. The national advertising program in itself affords you a vehicle which gives you a new approach to your dealers to interest them in your plans for development of greater sales. Both the necessity for such development and the means of achieving it are clear. It is your responsibility to say whether such achievements are to be realized.

### **"Western Gas" Changes Name to "Gas"**

**W**ESTERN GAS, published monthly for the past 11 years, brought out its issue of May, 1936, under a new name GAS. Established in 1925 with publication offices in Los Angeles, the magazine originally served gas industry readers in the 11 western states. With the beginning of natural gas expansion in the Southwest and Midcontinent sections, editorial and circulation coverage widened to include territory as far east as the Mississippi River.

Growth of circulation among gas industry readers of eastern states has developed gradually over the life of the publication to a point where the publishers decided to drop the "Western" from the masthead.

In its May issue GAS included two national surveys, one covering gas company-dealer sales activities in 1936, the other reporting natural gas transmission line developments.

# Companies Leading Refrigerator Contest Announced



**L**EADERS of the various divisions in the nationwide refrigerator sales contest have been announced by the Refrigeration Committee, B. H. Gardner, chairman. At the end of April the companies fighting for the Sword of Merit, the symbol of supremacy, were in the positions shown below.

G. W. West, Jr., secretary of the Commercial Section, left, and H. S. Boyle, sales promotion manager for Electrolux, are shown with checks which were distributed to the winning salesmen

Position	Company	City and State	Sales Manager
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## First Division

- |    |                                     |                     |                  |
|----|-------------------------------------|---------------------|------------------|
| 1. | Kings Appliance Corp.               | Brooklyn, N. Y.     | J. A. Sackett    |
| 2. | Consolidated Edison Co. of New York | New York, N. Y.     | George Ostlund   |
| 3. | Brooklyn Union Gas Co.              | Brooklyn, N. Y.     | G. F. B. Owens   |
| 4. | Southern California Gas Co.         | Los Angeles, Calif. | J. E. Kern       |
| 5. | Philadelphia Gas Works Co.          | Philadelphia, Pa.   | H. S. Christman  |
| 6. | Washington Gas Light Co.            | Washington, D. C.   | H. Brundage, Jr. |
| 7. | Boston Consolidated Gas Co.         | Boston, Mass.       | John J. Quinn    |

## Second Division

- |    |                              |                     |                 |
|----|------------------------------|---------------------|-----------------|
| 1. | Brooklyn Borough Gas Co.     | Coney Island, N. Y. | R. Moller       |
| 2. | New Haven Gas Light Co.      | New Haven, Conn.    | P. J. Naschold  |
| 3. | Providence Gas Company       | Providence, R. I.   | J. L. Johnson   |
| 4. | Gas & Electric Appliance Co. | Columbus, Ohio      | M. K. McKelvey  |
| 5. | Minneapolis Gas Light Co.    | Minneapolis, Minn.  | E. J. Boyer     |
| 6. | Portland Gas & Coke Co.      | Portland, Ore.      | B. H. Parkinson |

## Third Division

- |    |                              |                    |                  |
|----|------------------------------|--------------------|------------------|
| 1. | Hartford Gas Co.             | Hartford, Conn.    | H. R. Carlson    |
| 2. | Detroit City Gas Co.         | Detroit, Mich.     | Newell E. Loomis |
| 3. | Springfield Gas Light Co.    | Springfield, Mass. | T. J. Lyons      |
| 4. | Metropolitan Utilities Dist. | Omaha, Neb.        | Frank Landers    |
| 5. | Milwaukee Gas Light Co.      | Milwaukee, Wis.    | Kenneth Brown    |
| 6. | Public Service El. & Gas Co. | Newark, N. J.      | J. H. Stapleton  |
| 7. | Ohio Fuel Gas Co.            | Toledo, Ohio       | H. E. Myers      |
| 8. | Public Service El. & Gas Co. | Jersey City, N. J. | W. S. Meany      |

## Fourth Division

- |    |                                 |                      |                   |
|----|---------------------------------|----------------------|-------------------|
| 1. | Cumberland & Allegheny Gas Co.  | Cumberland, Md.      | Paul Dunn         |
| 2. | Manufacturers Light & Heat Co.  | East Liverpool, Ohio | Thos. H. Stephens |
| 3. | Bridgeport Gas Light Co.        | Bridgeport, Conn.    | R. A. Maloney     |
| 4. | Little Rock Gas & Fuel Co.      | Little Rock, Ark.    | C. B. Wilson      |
| 5. | Ohio Fuel Gas Co.               | Mansfield, Ohio      | Geo. McFadden     |
| 6. | Birmingham Gas Co.              | Birmingham, Ala.     | W. A. Hudson      |
| 7. | Scranton-Spring Brook W. S. Co. | Scranton, Pa.        | E. A. Moran       |
| 8. | Southern Co. Gas Co.            | Santa Ana, Calif.    | Fred G. Merker    |

Position	Company	City and State	Sales Manager
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## Fifth Division

- |    |  |                    |                  |
|----|--|--------------------|------------------|
| 1. | Manufacturers Light & Heat Co., Ellwood City Dist. | Bellevue, Pa.      | S. C. Ross       |
| 2. | Central States Power & Lt. Corp.                   | Tulsa, Okla.       | Ira C. Miller    |
| 3. | Natural Gas Co. of W. Va.                          | Wheeling, W. Va.   | H. L. Bennett    |
| 4. | Montana-Dakota Utilities Co.                       | Minneapolis, Minn. | E. B. Voneman    |
| 5. | Portland Gas Light Co.                             | Portland, Me.      | W. H. Richardson |
| 6. | Natural Gas Co. of W. Va.                          | Salem, Ohio        | J. Arch Harwood  |
| 7. | Jacksonville Gas Co.                               | Jacksonville, Fla. | R. O. Berry      |
| 8. | Lowell Gas Light Co.                               | Lowell, Mass.      | John J. McKearin |

## Sixth Division

- |    |  |                    |              |
|----|--|--------------------|--------------|
| 1. | Florida Public Service Co.                         | Orlando, Fla.      | H. R. Cloud  |
| 2. | North Penn Gas Co.                                 | Port Allegany, Pa. | G. W. Keith  |
| 3. | Manufacturers Light & Heat Co., Rochester Dist.    | Bellevue, Pa.      | S. C. Ross   |
| 4. | Peoples Gas Co.                                    | Port Arthur, Tex.  | W. C. Austin |
| 5. | Gas & Electric Appliance Co.                       | Zanesville, Ohio   | R. J. Miller |
| 6. | Manufacturers Light & Heat Co., Beaver Falls Dist. | Bellevue, Pa.      | S. C. Ross   |
| 7. | Ohio Fuel Gas Co.                                  | Baltimore, Ohio    | E. L. Howard |
| 8. | Ohio Fuel Gas Co.                                  | Mt. Vernon, Ohio   | E. L. Howard |

## Seventh Division

- |    |  |                    |                  |
|----|--|--------------------|------------------|
| 1. | Lynchburg Gas Company                        | Lynchburg, Va.     | E. V. Bowyer     |
| 2. | Virginia Gas Dist. Corp.                     | Staunton, Va.      | Ralph Steele     |
| 3. | Tyler Gas Service Co.                        | Tyler, Tex.        | Ronald L. Simms  |
| 4. | United Gas System                            | Sinton, Tex.       | D. A. Strickland |
| 5. | Union Gas System, Inc., Coffeyville Division | Independence, Kan. | Jay H. Crawford  |
| 6. | United Gas System                            | Huntsville, Tex.   | J. R. Saunders   |
| 7. | United Gas System                            | Longview, Tex.     | R. E. Knight     |
| 8. | United Gas System                            | Liberty, Tex.      | J. A. Wilson     |

## Eighth Division

- |    |                           |                    |                 |
|----|---------------------------|--------------------|-----------------|
| 1. | Broad River Power Co.     | Florence, S. C.    | B. W. Garvin    |
| 2. | Arkansas-La. Gas Co.      | Vivian, La.        | W. J. MacIntyre |
| 3. | Virginia Gas Dist. Corp.  | Waynesboro, Va.    | Ralph Steele    |
| 4. | Piedmont Gas Company      | Hickory, N. C.     | J. D. Barnes    |
| 5. | Texas Gas Dist. Corp.     | Uvalde, Tex.       | L. B. Duke      |
| 6. | Community Public Ser. Co. | Graham, Tex.       | Lee Dockery     |
| 7. | Texas Gas Dist. Corp.     | Crystal City, Tex. | L. C. Bradburn  |
| 8. | Arkansas-La. Gas Co.      | Pittsburg, Tex.    | W. J. MacIntyre |

## Industrial Gas Section

Charles W. Gale, Chairman

Eugene D. Milener, Secretary

Ralph L. Manier, Vice-Chairman

# Gas Exhibit Impresses New England Hotel Men

**A** GAIN this year the cooperative gas exhibit at the New England Hotel Exposition held at the Copley Plaza Hotel in Boston, April 22-24, occupied its usual dominant position. Under the direct sponsorship of the New England Gas Association, as has been the practice for several years, it demonstrated that the gas industry is alive to the demands of the hotel and restaurant trade for more efficient, economical and attractive cooking equipment.

That this year's outstanding gas exhibit was appreciated, was evident by the crowds that each day and evening patronized the various displays. The manufacturers who displayed equipment were particularly enthusiastic over the greatly increased number of interested people, whom they had the opportunity of interviewing at the show.

By C. H. Kendall

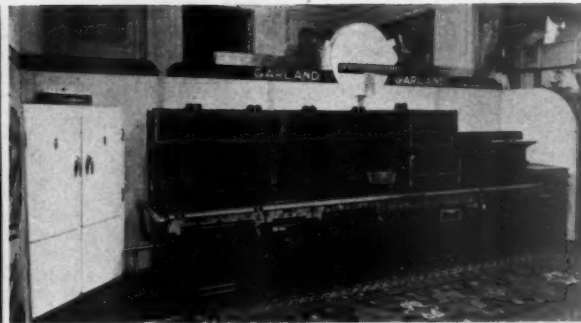
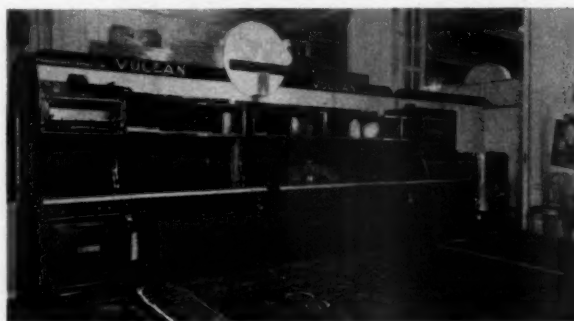
Boston Consolidated Gas Co.,  
Boston, Mass.

latest development in commercial cooking equipment, and the opportunity for exchanging ideas between manufacturers, the

Connecticut Light & Power Company  
Hartford Gas Company  
New England Gas & Electric Association  
New England Power Association  
New Haven Gas Light Company  
Newport Gas Light Company  
Old Colony Gas Company  
Pawtucket Gas Company  
Providence Gas Company  
Springfield Gas Light Company

### Manufacturers Companies

American Stove Company,  
Magic Chef Equipment  
G. S. Blodgett Company,  
Blodgett Bake Ovens  
Detroit-Michigan Stove Company,  
Garland Equipment  
Lenox Incorporated, Silex and  
Star Broiling Equipment  
The Murray Company, Coleman  
Coffee Equipment  
Standard Gas Equipment Corporation,  
Vulcan Equipment  
Yarnall-Waring Company, Yarrow  
Thermostats



Three sections of the gas exhibit at the Hotel Exposition

The exhibit occupied the stage at the end of the main ballroom. The background was built of natural finished plywood, providing separate booths for each of the eight exhibitors, and giving an air of permanence to the whole display. The back panel of each row of exhibits was surmounted by a modernistic fluted chromium cornice, centered overhead by an illuminated blue gas flame reflecting through the word "GAS" with the slogan below "The Quick Controlled Heat." Oriental rugs scattered on the carpeted floor completed the decorations and furnished an effective setting for the equipment on display.

The educational value of such an exhibit cannot be overemphasized. In every instance the manufacturer showed the very

gas men, and prospective customers was of inestimable value to all who were present.

The committee which had charge of the gas exhibit was as follows:

L. B. Crossman, Boston Consolidated Gas Co., Chairman  
H. O. King, Standard Gas Equipment Corporation  
R. E. Wright, New England Gas & Electric Co.  
C. C. Ogren, Malden & Melrose Gas & Electric Co.  
G. E. Radford, Detroit-Michigan Stove Company  
G. P. Volte, American Stove Company

The following organizations participated:

*Gas Companies*  
Boston Consolidated Gas Company  
Bridgeport Gas Light Company

### Associations

American Gas Association, Industrial Gas Section, New England Gas Association.

On the last day of the exhibit the Industrial Division of the New England Gas Association met in Boston and its members took the opportunity to attend the Hotel Show. A luncheon meeting was held at the Engineers' Club and the general subject of the talks was "Modern Applications of Gas in Commercial Kitchens." Addresses were made by Eugene D. Milener, American Gas Association; G. P. Volte, American Stove Company; G. E. Radford, Detroit-Michigan Stove Company; C. H. French, Standard Gas Equipment Corporation. The meeting was presided over by W. W. Young, Jr., of Waterbury, Conn.



## Profits from Savings with Modern Gas Applications

**FORMER  
HEATINGS COSTS  
REDUCED 60%**

A quality sample of profits from savings,  
made possible by up-to-date  
Gas Application

This air flow furnace, using purified air  
burners, burns up to 100 times more than  
the furnace previously used. The unit is approx-  
imately the same size. It costs \$750 to build and  
operate. Operating cost - \$4000 per year.  
Savings possible - \$4000 per year.  
Savings possible - \$4000 per year.  
Savings possible - \$4000 per year.

**IMPORTANT** developments in heat applications  
during the past few years have made gas an  
economical, profit making fuel for users throughout  
industry.

The air flow furnace illustrated above has shown  
"no over-all savings" by itself, but, in comparison  
with the furnace heating method. This type of furnace  
has applications, with possibly smaller results, in in-  
dustries of plants where heating or drying is done.  
The furnace is a modern development utilizing the  
purified air burner, another modern development

which is now applicable to baking, drying, preheating,  
etc., for many of operations in most industries.  
Important savings result in almost every instance,  
except that higher profits made possible only by  
modern gas utilization.

For specific information concerning up-to-date gas  
applications to your own heating operations, call one  
of your gas company industrial engineers. Without  
obligation, he will gladly tell you of the many ad-  
vantages of gas, available to you—advantages that mean  
profits from savings.

**INDUSTRIAL GAS SECTION  
AMERICAN GAS ASSOCIATION  
420 LEXINGTON AVENUE—NEW YORK CITY**

## MODERNIZE FOR PROFIT WITH GAS

Recent Research  
Reveals New Knowledge That Means  
Better Baking at Lower Cost



Recent research, the above all other kinds of ap-  
plications, has shown that modernizing your heat-  
ing system by using modern gas burners and heat ex-  
changers has been shown to be the most profitable and  
economical way to modernize your heating system.  
By using modern gas burners and heat exchangers,  
you can save up to 50% on your heating costs.  
This is because modern gas burners and heat exchangers  
are designed to burn gas more efficiently than old  
burners and heat exchangers. They also have longer  
lifetimes and require less maintenance.

**AMERICAN GAS ASSOCIATION  
420 LEXINGTON AVENUE, NEW YORK CITY  
INDUSTRIAL GAS SECTION**

## PROFITABLE RESULTS OF MODERN GAS APPLICATION

**Industrial Gas Permits  
Greater Flexibility, Wide  
Application, More Accurate  
Control and Efficient  
Utilization.**

"During 1935 of former times, quality improved" ...  
"Drying heating costs—Control more accurate" ...  
"Production increased 100% but more reduced 100%  
efficiency."

Having gas has revealed much new knowledge in the  
modern applications of this modern fuel. It has  
shown that modernizing your heating system by using  
modern gas burners and heat exchangers has been shown  
to be the most profitable and economical way to modernize  
your heating system. By using modern gas burners and  
heat exchangers, you can save up to 50% on your heating  
costs. This is because modern gas burners and heat exchangers  
are designed to burn gas more efficiently than old burners  
and heat exchangers. They also have longer lifetimes and  
require less maintenance.

**AMERICAN GAS ASSOCIATION  
420 LEXINGTON AVENUE—NEW YORK CITY  
INDUSTRIAL GAS SECTION**

## IMPROVED QUALITY DECREASED COST— WITH GAS THE MODERN FUEL



**RESEARCH** and development during recent  
years have resulted in new and improved gas-  
burning equipment for almost every industrial  
heating operation.

Now gas equipment will be found throughout  
most modernizing industries—these units and  
new heat exchangers for large factories of  
every type. "New modernities." Regardless of the  
operation or the size of the job, new and im-  
proved gas-burning equipment improves quality  
and decreases costs.

Among the results of modernization, many of  
which have always used gas, are found such  
improvements as these: "More heat of production  
costs" ... "Improvement manufacturing quality  
and a better product" ... "Increase production  
and lower cost of cost" ... "More accurate  
control and cleaner operation."

You can depend upon Gas for these modern-  
izations that mean bigger profits to you. Call your  
local Gas Company Industrial Engineer regard-  
ing your heating operations. There will be an  
obligation, and he will gladly advise you.

**AMERICAN GAS ASSOCIATION  
INDUSTRIAL GAS SECTION . . . . . 420 LEXINGTON AVENUE, NEW YORK CITY**

## PROFITS From Modern Gas Applications



**New Advantages from New Knowledge**

Modernization is done for benefits or profits. Improving  
the efficiency of applying fuel is important consideration  
if it includes gas.

Recent research has revealed much new knowledge  
about how you can help you to be more economical. These  
advantages are, in fact, the most important. They are  
efficiency, economy, and accuracy. And, in fact, they are  
the most important. They are efficiency, economy, and  
accuracy. And, in fact, they are the most important.

**AMERICAN GAS ASSOCIATION  
INDUSTRIAL GAS SECTION . . . . . 420 LEXINGTON AVENUE, NEW YORK CITY**

## NEW RESEARCH MAKES GAS THE IDEAL BAKING FUEL



**FOR  
GREATER PROFIT,  
INVESTIGATE  
NEW KNOWLEDGE  
IN GAS  
AND  
NEW BAKING  
EQUIPMENT**

New refinements in oven design, and  
new instruments and devices to give  
more accurate control and distribution  
are some of the modern developments  
that have helped make Gas the Ideal Fuel  
for Baking.

Gas has always had many advantages.  
It is clean, economically controlled,  
quick-burning, and instantly available. It  
saves time, space and labor costs, and  
it is economical. Add to these advantages  
the new efficiency of up-to-date baking  
equipment and you have many definite  
reasons why you should prefer gas to  
other fuels everywhere. Investigate its po-  
tential, its economy and efficiency, and  
see it in action. It is the modern product for you. Gas is  
much more than just a fuel for your company, now.

**AMERICAN GAS ASSOCIATION  
420 LEXINGTON AVENUE—NEW YORK CITY  
INDUSTRIAL GAS SECTION**

Samples of industrial and commercial gas advertising. These advertisements are appearing currently in six trade papers having national circulation. They are prepared under the supervision of the Advertising Committee of the Industrial Gas Section of which J. P. Leinroth, Newark, N. J., is chairman

## Technical Section

F. A. Lydecker, Chairman

H. W. Hartman, Secretary

Martin I. Mix, Vice-Chairman

# Streamline Checker Brick

**T**HE Streamline checker brick was designed and patented by Louis Stein, Northern States Power Company, Minneapolis, Minnesota. Mr. Stein served in the Air Corps during the war. Recognizing the possibilities of streamlining, he applied the principle to the lateral cross section of checker brick. The so-called "pear-shaped" brick has nothing in common with the Streamline brick. The two are quite different in characteristic design.

Streamline checker brick has the same over-all dimensions as a standard square brick. While the maximum thickness is  $2\frac{1}{2}$  inches, one edge is  $\frac{3}{4}$  inches wide and the other  $1\frac{3}{4}$  inches. The Streamline brick was originally made in two sizes; one for the carburettor and the other for the superheater. Now, one shape is used for both carburettor and superheater. Originally they were not made with a square top. The  $\frac{3}{4}$  inch top, as now made, was due entirely to the fact that the manufacturers required this amount for the purpose of stacking them economically in the drying kilns. The following is a comparison of Streamline and square brick:

	Streamline	Square
Cubical volume, cu.in.	76.5	101
Total surface, sq.ft.	0.75	0.875
Weight per brick	6.0 lbs.	7.5 lbs.

With Streamline brick it is possible to obtain a maximum amount of heat storage capacity with a minimum amount of back-pressure or resistance to the gas flow. They have been used in the water gas sets of the Northern States Power Company for the past ten years. Other types have been tried, but the best all-around results have been obtained with Streamline checker brick.

The following is the spacing used in a 9-ft. U.G.I. set equipped with a backrun which is typical.

Superheater: 34 courses with 1" spacing.  
Top 4 courses of 9" soaps with 4" spacing.  
Carburettor:

9 bottom courses with 1" spacing  
Next 3 courses with  $1\frac{1}{2}$ " spacing  
Next 2 courses with 2" spacing  
Top 4 courses with 4" spacing

The bricks are staggered.

Either 4 courses of 9" soaps or 2 courses of 9" straights can be used for the top courses of the carburettor. The reason for using soaps or straights for the top courses is to provide some kind of a binder which will hold the top courses of Streamline brick in place and prevent them from being tipped over by the air blast from the generator.

By **LEON J. WILLIEN**

Operating Gas Engineer, Standard Gas and Electric Company

The matter of spacing of the Streamline brick is all-important in any operation whether it be in water gas sets, glass furnaces, or in open hearth steel regenerators. The inherent Streamline design was for the purpose of permitting unusually close spacing with resultant increase in volume and heating surface. The method of checkering with Streamline is not different from checkering with square brick as to the actual



Streamline checker brick

handling and labor. The bricks actually have a lower center of gravity than square bricks, and are harder to dislodge under ordinary conditions than square bricks for this reason. The bricks are placed so that the wide edge faces down and the narrow edge faces up. Strictly speaking therefore, the bricks in the carburettor are not Streamlined to the flow of the gas, they are Streamlined however, in the superheater which contains twice the number of bricks or more, than the carburettor.

The following are the operating results for five months with square brick at  $2\frac{1}{2}$ " spacing and eight months with Streamline brick with the typical spacing previously mentioned.

	Square	Streamline
B.t.u.	521	521
Fuel per M cu.ft. (coke)	30.97	31.40
Oil per M cu.ft.	2.62	2.41
M B.t.u. per gallon	107	114

The M B.t.u. per gallon was estimated on the basis of 70 cu.ft. of oil gas per gallon and 295 B.t.u. blue gas.

These results were obtained with a 9-ft. U.G.I. set equipped with a backrun. The back pressure through the set was 10 to

15% less with Streamline brick than with square brick. A corresponding increase in generating capacity was obtained.

Gas oil of about 30° Be. has been used exclusively with Streamline brick. To my knowledge they have never been used with heavy oil. Coal has been used both straight and mixed with coke. With such operation no abnormal trouble has been experienced with dust filling the spaces with Streamline brick at 1" spacing.

The Appendix shows the operating results over a period of years for three plants. The sets were all equipped with Streamline brick and a backrun. The coal used for generator fuel was Elkhorn coal. Tests have shown that when used 100% a 340 B.t.u. blue gas is produced. The M B.t.u. per gallon was calculated by an empirical formula I developed which corrects for the variations in the blue gas B.t.u. when using various mixtures of Elkhorn coal and coke. This formula is as follows:

$$\begin{aligned} \% \text{ oil gas in finished gas} &= 7 \times \text{gals./M} \\ \% \text{ blue gas in finished gas} &= 100 - \% \text{ oil gas} \\ \text{Blue gas B.t.u.} &= 290 + (.5 \times \% \text{ coal used}) \\ \text{B.t.u. due to blue gas} &= \% \text{ blue gas} \times \text{B.t.u. of blue gas} \\ \text{B.t.u. due to oil} &= \text{B.t.u. finished gas} - \text{B.t.u. due to blue gas} \\ \text{M B.t.u./gal.} &= \text{B.t.u. due to oil/gals. per M cu.ft.} \end{aligned}$$

In the area of the Twin Cities Minnesota, Streamline checker brick costs about one cent more per brick than square bricks. Results seem to be better in every way if the bricks are made by the so-called dry press method. It is also essential that the manufacturer supply bricks which are true to dimensions, sharp edged, symmetrical about all center lines, and carefully made of only the best refractory material for the purpose.

The following manufacturers are licensed to manufacture and sell Streamline brick:

Parker-Russell Mining and Mfg. Co., St. Louis, Mo.  
Harbison Walker Refractories Co., Pittsburgh, Pa.  
North American Refractories Co., Pittsburgh, Pa.  
Garfield Fire Clay Co., Robinson, Pa.

Ability to use closer spacing with Streamline brick without increasing the back pressure makes it possible to use more brick. This increases not only the mass of refractory material but also the amount of exposed brick surface. It is my belief—

1. That the increased mass of refractory material means an increased amount of

heat storage which results in a more uniform temperature. This is desirable for efficient oil cracking.

2. That the increased amount of exposed surface results in a more efficient heat transfer, both during the blow and run periods.

#### APPENDIX

##### PLANT A

Four-ft. set equipped with backrun. The finished gas is stored in tanks at 60-lb. pressure. The B.t.u. is after compression.

Year	Fuel	Coal	Oil	B.t.u.	M B.t.u./Gal.
1928	38.21	100	2.82	523	89
1929	35.95	100	2.72	520	90
1930	38.31	100	2.58	521	94
1931	34.19	94	2.48	518	96
1932	34.38	90	2.42	519	98
1933	35.09	92	2.59	519	93
1934	33.09	88	2.85	520	87

##### PLANT B

Five-ft. Springer Single Shell set equipped with backrun:

1926	33.4	53	2.87	521	93
1927	29.1	93	2.91	523	88
1928	31.0	91	2.91	523	88

Operation discontinued in 1929. Sets were completely worn out.

##### PLANT C

Five-ft. set with 4-ft. carburettor and superheater equipped with backrun:

1926	37.10	18	2.61	520	106
1927	32.63	39	2.44	520	108
1928	30.50	35	2.39	520	111
1929	30.36	48	2.20	521	116
1930	30.46	50	2.35	520	111
1931	28.54	14	2.25	520	120
1932	27.19	60	2.18	521	115
1933	26.06	56	2.16	520	117
1934	27.48	65	2.28	521	111

## An Aftermath of the Flood

AS a contribution to better public relations and a clearer understanding of the conditions faced by the public utilities in flood areas, The Connecticut Light and Power Company has distributed an illustrated pamphlet to its 142,000 gas and electric residential customers containing stories of dramatic moments during Connecticut's greatest flood. The stories are brief, but they carry home a realization of a great public service well performed.

Following is a typical experience as described in the pamphlet.

The flood waters of the Connecticut were lapping the lower edge of the gas-plant yard at Middletown. The flood had already overtopped all former marks. Would it continue to rise? Probably not. But it might. If it did, it would be but a short time before the network of mains and control valves in the yard would be undermined and water would seep in at the joints, shutting off the city's gas supply.

"We'll build an emergency main on higher ground," decided the district manager, "that will go around the yard. Then if necessary, we can 'short circuit' the yard."

It was seven in the evening when this plan was decided upon. Within an hour all of The Connecticut Light & Power Company forces in Middletown, already fatigued by long hours of work, were again on the job; more men came from Meriden with trucks and tools; truckloads of heavy pipe were brought from Meriden; connection fittings arrived during the night from Waterbury.

By the light of searchlights and flares, trenches were dug and pipe was laid at top speed all through the night and the next day.

At five o'clock, Friday afternoon, the new line was finished.

By that time the gas-plant yard was under five feet of water . . . eight feet in some places . . . gas holder, governor house and valves had to be reached by boat. Twenty-four hours later the water had forced its way into the pipe joints in the yard, shutting off the flow of gas into the distributing mains.

But the crisis was past. The new main had saved the day. The city's gas service . . . except for the fifty seconds it took to swing the emergency line into action and cut off the gas-plant yard . . . had been uninterrupted throughout the emergency. Only a few people knew what had been done . . . done not to remedy disaster, but to prevent it.

## Japanese Gas Executives Visit Association

FIVE members of the Imperial Gas Association of Japan have been frequent visitors to headquarters of the American Gas Association in New York during recent weeks looking into the latest developments in American gas practice.

The visitors include the following employees of the Osaka Gas Company, Ltd., Osaka, Japan: M. Yanagita, chief engineer, T. Iguchi, purchasing agent, Y. Furuta, distribution engineer, and S. Shikaku, manager, new business department. Also making an inspection tour of the gas industry in this country and in Europe, and whose visit coincided with that of the representatives of the Osaka Gas Company, was Tetsuji Aoke, superintendent of the Shinkyo Works of the South Manchuria Gas Co., Ltd., Dairen, Manchuria, also a member of the Imperial Gas Association.

Dr. Oshima, a former visitor, is expected to attend the World Power Conference and it is considered likely that he will remain for the annual A. G. A. convention at Atlantic City in October.

While en route across the continent, Mr. Yanagita and his colleagues visited the Pacific Coast, Chicago, and the Association's Testing Laboratory at Cleveland. Considerable interest was evidenced in the Laboratories' research on pipe joints, modern trends in American appliance construction, and the details of operation of national testing and certification programs. Mr. Yanagita plans to return in June to inspect further gas properties.

During their visit to Association headquarters, the Japanese delegation conferred with Herbert W. Alrich, assistant engineer of construction, Consolidated Edison Company of New York, and chairman of the Holder Committee, in reference to gas holder design.

The Osaka Gas Company, Ltd., of which Naokata Kataoka is president, is

sole supplier of gas to Osaka, second largest city in the Japanese Empire. The Osaka gas building is a landmark and pride of the city with its ultra-smart exterior and interior installations of every modern improvement. The basement, ground floor and second floor comprise the largest and most up-to-date gas show-rooms in Japan, one service of which is to keep housewives in the three cities of Osaka, Kobe and Kyoto constantly informed on the newest and most economical gas appliances for use in the home. The company is a member of the American Gas Association.

#### SURVEY OF CUSTOMERS

(Continued from page 233)

inquiry in the neighborhood by the shut-off man and the regular collection follow-up, results in sending good money after bad, because in very few cases are collections effected.

- (d) It is usually impossible to prevent this type of customer from obtaining service under conditions as cited above. Of course, this does not apply to those cases where the customer gives his correct name or previous address. Exhaustive investigation of applications for service is not economical and may delay completion of orders for an unreasonable period of time which is not conducive to good public relations. Consideration may be given to requesting and recording the name and address of the customer's employer or landlord for possible future use.

In conclusion, where reasonable care and effort is exercised in executing shut-off orders on skips and discretion and tact are used when accepting applications from new customers, further expenditures are not justified and establishment of a permanent practice of exhaustive investigation is not economical.



## Testing Laboratory

R. M. Conner, Director

Managing Committee: J. S. DeHart, Jr., Chairman

N. T. Sellman, Secretary

# Pressure and Temperature Relief Requirement Deleted from Water Heater Standards

**S**IGNIFICANT action of interest to utilities, manufacturers, and dealers selling gas water heating equipment, was taken by the American Gas Association Subcommittee on Approval Requirements for Gas Water Heaters on April 16 and 17 in rescinding the clause of the current approval standards which requires that all storage water heaters be regularly equipped with means to prevent both excessive temperatures and pressures of stored water. The requirement in question made mandatory the use of a pressure relief valve and either a temperature relief valve or an automatic gas shut-off valve on every approved storage water heater, irrespective of its date of approval, and had been applied to all pertinent appliances since January 1, 1936.

On April 23 and 24, the A.S.A. Sectional Committee, Project Z21, A. G. A. Approval Requirements Committee, endorsed the action of the subcommittee, and voted to make effective at once the revision allowing "optional" rather than "mandatory" use of stored water pressure and temperature protective devices. All gas water heater manufacturers and other interested parties have been notified of the change by mail. In his letter of notification, E. J. Horton, chairman of the Water Heater Subcommittee, explains the action as follows:

### *Requirement Basically Sound*

"The committee, in reviewing this situation was of the definite opinion that the requirement making mandatory the use on storage heaters of means to prevent excessive water temperatures and pressures was, and is, basically sound. With few exceptions, all comments and communications received on this subject were in agreement with this principle. The experience gained by manufacturers and utility companies in attempting to carry out the provisions of this requirement since January 1st last, however, indicates that the industry is not at this time prepared to effectively put such a requirement into practice.

"Whereas, further education and promotional work within the industry, among city officials and on behalf of the public may eventually make it feasible and desirable to enforce such a requirement, the committee agreed that for the present at least the approval standards should be immediately changed to make the use of means to prevent excessive temperatures and pressures optional. Part I, Sec. 8, 'Relief Devices,' clause 'a' of the American Standard Approval Requirements for Gas Water Heaters, Effective January 1, 1936, was therefore changed to read as follows:

'When means to prevent excessive water pressures or temperatures, or both, are provided, they shall comply with the requirements of this section and with the applicable performance requirements specified herein.'

"The above requirement was reviewed and approved by the A.S.A. Sectional Committee, Project Z21, A. G. A. Approval Requirements Committee, for immediate application, at the meeting of that group on April 23-24, 1936."

Numerous comments from manufacturer and utility representatives, principally on the West Coast, as well as formal resolutions passed by the Gas Water Heater Division of the Association of Gas Appliance and Equipment Manufacturers and by the Board of Directors of the Pacific Coast Gas Association in the interest of their constituents, advocated and initiated the action. Among the arguments advanced against mandatory pressure and temperature relief valves were the following:

1. Local ordinances in many localities prohibit the disposing of hot water into a drain.

2. It was questionable whether pressure relief valves were necessary where open systems are used which do not permit the building up of excess pressure.

3. In some local communities water pressures as high as 300 pounds per square inch are encountered, and there the use of standard pressure relief valves would immediately result in trouble.

4. Relief units add so materially to the cost and difficulty of installing heaters that certain manufacturers are foregoing A.G.A. approval of their products in order to sell in certain localities.

5. Manufacturers in order to conform to the requirements, must ship a temperature and pressure relief valve, for which allowance must be made upon its return by those customers who will not use it, causing much confusion and ineffectiveness in applying the requirement in question.

6. Potential flooding of basements and unwarranted release of hot water where relief units are not properly adjusted or installed, may result in damage suits and service troubles for the manufacturer, dealer, or utility.

7. Plumbers and customers often plug or cap relief devices, rendering them ineffective.

8. If relief valves were continued to be made mandatory, indications were that ordinances requiring American Gas Association appliances which are now in effect in certain cities might be repealed, which would tend to cause considerable confusion in such localities.

9. It is common practice in certain regions to set water heaters in kitchens,

laundries, and similar locations in which waste water released from protective devices may do considerable damage unless piped to safe overflow, and this frequently requires an expensive and unsightly run of tubing or pipe.

Many of the arguments, such as those listed above, are tenable. Others are debatable. However, in view of the controversial nature of the matter, the trouble experienced in attempting to apply the requirement in question, and the need for further educational and promotional effort before making such a requirement mandatory, it was thought best to rescind the ruling which became effective on January 1, and make the use of pressure and temperature relief devices or shut-off units optional, at least for the time being.

## Stickers Prepared for Approved Appliances

**T**O assist in the sales of American Gas Association approved gas appliances in competition with those designed for use with other types of fuel and to develop a more general familiarity with the A. G. A. Laboratory Seal of Approval among housewives and other gas users, the use of gummed paper stickers of the Blue Star Seal of Approval temporarily pasted on the tops or fronts of all new approved gas appliances will be encouraged.

According to the plan officially sanctioned by the A.S.A. Sectional Committee, Project Z21, A. G. A. Approval Requirements Committee, at its April 23-24 meeting, manufacturers of gas-burning equipment will purchase the gummed paper seals at cost and in any size desired from the Association's Testing Laboratories, and will affix them to their products in conspicuous positions. It is not intended that these paper seals take the place of the permanent seals required to be displayed as an integral part of the name plate of every approved appliance; but rather they will be distinctly supplementary thereto. They are intended merely to increase customer appreciation of the fact that the units bearing them are endorsed as complying with accepted national standards. The gummed paper seals will be strictly temporary on the equipment, it being expected that owners will probably wash them off when cleaning the appliances.

Several other national agencies for endorsing and certifying domestic goods

take advantage of similar temporary paper labels on products to promote and advertise the idea of "officially tested and approved goods." The plan was originally recommended to the American gas appliance industry by the American Gas Association Subcommittee on Approval Requirements for Gas Ranges when it met in Cleveland on June 14-15, 1935. Since then the proposal has enjoyed much favorable comment. Consumer groups and home economics organizations have expressed particular interest in this plan and have, in several cases, expressed approval of it. The matter finally developed to the point where it was submitted to

the main Approval Requirements Committee for acceptance last month. The plan was approved at that time, not only for gas ranges, but for all manner and types of American Gas Association approved gas appliances.

The Testing Laboratories, therefore, will undertake, immediately, the design and production of appropriate gummed paper replicas of its official emblem of certification. Tentatively, it is planned that these labels will be produced in large quantities in 1, 1½, and 2-inch diameters and, therefore, may be obtained at negligible cost. Other sizes may, however, be obtained if the need arises for them.

## Standards for Attachable Water Heating Units

By HARRY W. SMITH, JR.  
A. G. A. Testing Laboratories

THE recent appearance in the gas appliance field of different varieties of units designed to convert non-automatic water heating equipment to completely modern and automatic operation, has spurred the American Gas Association Subcommittee on Approval Requirements for Gas Water Heaters to development of Listing Standards for Attachable Gas Water Heating Units without Water-Carrying Parts. The first draft of the new set of listing requirements has just been completed by the sponsoring committee and should be printed and distributed in tentative form for criticism and comment in June.

The new types of gas-using units covered by the new standards consist principally of hot water tank insulating shells or materials, supplied with small gas burners and suitable controls in such a manner that the attachable unit may be installed upon an ordinary hot water storage tank to form a complete automatic storage gas water heater. They are intended primarily for lower income markets anxious to enjoy the benefits of automatic gas water heating without buying and installing complete new appliances. Generally, for obvious reasons, the B.t.u. per hour input to such an attachable unit is relatively small, so that the equivalent of a slow-recovery type of automatic storage heater is the result of its application. The thermostats on the attachable units brought to the Laboratories' attention to date are either of the conventional type extending through the tank wall into the stored water or of a type the thermal element of which lies along and outside of the tank wall but in close contact therewith.

By and large the new requirements drafted for the listing of attachable water heater units without water-carrying parts are identical to those used for the approval of complete storage gas water heaters. They specify that the attachable unit shall be installed as per the manu-

facturer's instructions upon a standard variety of storage water vessel of diameter and height corresponding to that for which the unit is designed, and then the whole assembly tested as a storage water heater. It is required that the diameter and shell sheet height of water tanks for which attachable units are designed be specified on the name plate. Utmost safety and a 70 per cent thermal efficiency is mandatory.

Finishing touches were put upon the new set of standards at the Gas Water Heater Subcommittee's April 16-17 meeting in Cleveland. It is expected that early this fall the group will convene once again to consider all suggestions received from the industry during July and August and to revise the standards, if necessary, for submittal to the A.S.A. Sectional Committee, Project Z21, A. G. A. Approval Requirements Committee, for final adoption.

If the program is not disrupted by vital new developments, completed and final American Standard Listing Requirements for Attachable Gas Water Heating Units without Water-Carrying Parts should be published and available by mid-1937, and go into effect on January 1, 1938.

## C. R. Lawrence Goes to Atlanta Company

CARL R. LAWRENCE, American Gas Association Testing Laboratories' engineer since early 1931, and for the past year employed in the Publications Department of the Laboratories as Acting Secretary to the Association's various requirements committees, will assume the duties of a new post with the Atlanta Gas Light Company, Atlanta, Georgia, on June 1, 1936.

For the Atlanta company and 30 affiliated near-by utilities, Mr. Lawrence will head up and develop appliance testing operations as well as employee education,

both activities now being in formative stages.

Mr. Lawrence's first assignment with the Association's Laboratory in Cleveland was as assistant in its pipe joint research program. This followed five years of sales engineering with the Westinghouse Electric and Manufacturing Company. Later at the Laboratories he participated in industrial gas research, testing, and requirements research work, until in 1935 he was assigned to the Publications Department where he has since been engaged in standardization and committee activities.

Mr. Lawrence is a graduate of Tri-State College, Angola, Indiana, 1926, and holds his degree in mechanical engineering.

## To Organize Furnace Atmosphere Symposia

ELMER O. MATTOCKS, industrial gas engineer with the American Gas Association Testing Laboratories in Cleveland, has been appointed, by Harry P. Croft, president of the Cleveland Chapter of the American Society of Metals, to serve on the Educational Committee of that Society and to organize its symposia on Industrial Furnace Atmospheres.

Mr. Mattocks has been engaged for the past six years in fundamental research on the engineering principles of industrial gas combustion under varying oxidizing and reducing atmosphere conditions, and has been active in the development of recent significant furnace design data.

## Why Not, Mr. Senator?

HERE is another poem which Jesse H. Metcalf, millionaire senator from Rhode Island, has sent to the Sheboygan Weekly, "World's Smallest Newspaper":

"I thank my God the sun and the moon  
Are both stuck up so high,  
That no presumptuous hand can stretch  
And pluck them from the sky.

"If they were not, I do believe  
That some reforming ass  
Would recommend to take them down  
And light the world with gas."

## Strickler Again Director of U. S. Chamber

T. J. STRICKLER, vice-president and general manager of the Kansas City Gas Company, Kansas City, Mo., was re-elected director of the seventh district of the Chamber of Commerce of the United States at the recent annual meeting in Washington, D. C. Harper Sibley of Rochester, N. Y., who was one of the principal speakers at the A. G. A. convention last year, was re-elected president.

# Personnel Service

## SERVICES OFFERED

**Gas Engineer** (29) desires new connection; graduate M. E., 8 years' experience in manufacture gas; production, transmission, distribution and construction; operation, maintenance, design, planning, testing, reports, studies, budgets, law cases; butane plant construction and operation; licensed stationary engineer and licensed Professional Engineer (N. Y.); completed Rutgers and Columbia extension gas courses. 1007.

**Engineer** with utility accounting experience. B. S., M. E. E.; postgraduate work. Three years' research assistant, National Industrial Conference Board. Twelve years' gas and electric utility experience, rates, franchises, cost allocations, contracts, research in utility management problems. Experience with P. S. C. accounting. (N. Y.). 1008.

**Graduate Engineer** with twelve years' experience in the gas business; assistant superintendent of large water gas plant, estimating costs for construction and alteration of coke and gas plants, physical inventories and appraisals, desires position in operating or construction department, married, (35). 1011.

**Engineer**, Graduate M. E. 20 years' experience in electric utility, manufactured and natural gas, appraisal valuations, previously manager, general superintendent and engineer for operating company, temporarily employed. 1018.

**Insurance Specialist**: graduate engineer, experienced utilities, operating and holding company, meter reader to junior executive; now employed, specialized last five years in producing large economies in insurance protection of all kinds for utility companies. Available special reports or full time. 1019.

**Geologist, valuation engineer**—University education; many years' experience with largest producer in Appalachian fields, know producing sands, depths, rock pressures, depletion. Also valuation expert on mechanical equipment inventory for gas plants. Statistician and chart experience. (38). 1021.

**Gas Engineer**, now employed, desires position as manager, industrial gas engineer, or distribution engineer. Ten years' experience in all branches of the manufactured gas business, including three years as industrial gas sales engineer; some experience with natural gas. Graduate (M. E.); (31). 1022.

**Utilization—testing—sales—installation—of gas appliances**. Long experience in house heating, water heating, hotel and restaurant, industrial work; in metropolitan New York and vicinity. Utility or manufacturer. 1023.

**Engineer-Accountant** graduate engineer, sixteen years' experience preparing, presenting valuations and original cost analyses of tangible and intangible property (electric, manufactured and natural gas) for reorganization, sale, recapitalization, insurance, franchise, rates and commissioner's review. Prepared rate studies and presented rate schedules. Set up fixed capital records. 1024.

**Gas Analyst**—Seven years' experience in research and gas industry. Thoroughly qualified in every phase and mode of gas analyses, including Podbielniak fractionation. Now in charge of gas laboratory. 1025.

**Auditor—Office Manager**. Former office manager of 50,000 account gas company desires opening anywhere. Experience covers fifteen years on all utility clerical and accounting functions. At present temporarily employed utility auditing by well-known public accounting firm. (32) Married. 1027.

**Sales Supervisor**. Specialist in introduction complete line of gas appliances converting other fuel users to enthusiastic gas consumers. Capable directing, supervising, sales organization. 14 years' experience gas merchandising, customer contact, settling complaints, claims; displays, exhibitions, home beautiful shows and general advertising. Employed, available 30 days, have car. 1028.

## SERVICES OFFERED

Well known engineer experienced in construction, design, engineering, operation, and management, now available on daily, weekly, monthly or yearly basis for **advice, studies and reports**. Small or large companies. Will collaborate with engineers and managers engaged in making reports thus making steady progress and early completion of such reports possible. 1029.

**Sales Supervisor**. Fifteen years' experience in appliances familiar with every phase of utility merchandising—particularly strong in gas range, water heaters and refrigeration campaigns. Well versed in househeating and combination property direction. Will take over run down property to demonstrate ability. Married. (35). 1030.

**Small Plant Manager**—energetic, efficient in small water gas plants. Have made change-over coal gas to water gas—water gas to butane; operated butane plant. Understand manufacturing, distribution, high—low pressure; know what it means to maintain friendly public relations. Interested in showing results in operating and sales. 1031.

**Sales Engineer** or executive have specialized in the sale and promotion of automatic gas water heaters, gas ranges and other gas appliances for over a period of twenty years. Planned and managed many sales campaigns; extensive acquaintance with utility merchandising managers and plumbing supply jobbers. Willing to travel. 1032.

**Sales**. Seasoned and competent; gas industry eleven years manufacturers man (ranges) selling utilities acquiring distributors, etc., traveled Eastern states. Has trained and handled salesmen. Promotional meetings. Experienced marketing. Good contacts and record. Desires manufacturer or utility connection. American (37) Single—Well educated. 1034.

**Mechanical Engineer**, University graduate (36). 12 years' experience in the oil burning industry as service manager, field engineer and installation foreman on domestic and commercial oil burning systems including boilers, radiators and hot water supply systems. Also power plant testing. 1035.

**Junior Statistician**: 10 years' experience public utilities. Versed in statistical routine, special reports, unit costs, special studies, preparation of forms in reporting or summarizing balance sheet, operating revenue and operating expense items, graphical presentation of results, reports for trade associations, preparation of data, etc. 1036.

**Accountant**. Ten years' general experience; plant and distribution system records maintained and analyzed in accordance with utility and commission requirements. 1038.

**Sales Supervising Engineer or Manager**. Manufactured and natural gas; college degree, industrial, commercial and domestic; commercial research, advertising, sales promotion, experienced in those quantitative measurements of gas engineering and handling sales people; married. (38). 1039.

**General Superintendent or Local Manager**. Fifteen years' experience in the production of water gas, coal gas, and Pacific Coast oil gas, high and low pressure distribution and transmission, domestic and industrial installation and utilization. Mechanical engineering education; speaks English and Spanish, employed at present. (37). 1040.

**Service Manager**, 13 years' natural gas experience, transmission, distribution as construction and maintenance foreman. Domestic, commercial and industrial selling, aiding salesmen to close, advising in heating problems, laying out new systems, renovating and modernizing old systems; specialist in heating, employed. (31). 1041.

Something available in service. Executive with trained ability in engineering, accounting, commercial and legal **management**; a background of years of experience in corporation field. Connection with holding company preferred. 1042.

## SERVICES OFFERED

**Meter Shop Superintendent**, 9 years' experience in gas meter repairs in charge of meter shops repairing 60,000 meters per year. Thoroughly familiar with modern meter work and manufacture of meter diaphragms. University graduate. Good personality; can effect economies. 1043.

**Manager** 24 years' experience in all branches of manufactured coal and water gas. Built and operated plants for sixteen years; with last organization seventeen years every capacity, last eight years as manager property 5,800 meters, showing exceptional results. Have endorsement of city officials and leading business men with fine public relations; married. (44). 1045.

**Writer** with practical knowledge of selling a fine organization to its employees and the public. Experience in employee publications, research, surveys and employee relations with large western gas and electric company and two outstanding railroads. Thorough knowledge also of preparing utility advertising and publicity. Exceptional references from executives. 1046.

**Sales Engineer**, capable of managing house-heating department in all its branches, covering surveys, installation, estimates, sales promotion, service, repairs and maintenance. Experience also covers industrial field with regard to high and low pressure boilers and large volume water heating. Broad general and technical experience; married. 1047.

**Public utility auditor** and accountant desires to make change. Ten years' experience gas and electric operating and holding companies; good references, familiar with eastern and southern territories. (42). 1048.

**Sales Representative** for range manufacturer in any Eastern territory; aggressive and capable, college graduate; successful experience on propane bottled gas with company which has enjoyed exceptional growth in territory served. Married. (31). 1049.

**Sales Engineer** or supervisor (38) with ten years' experience in the gas industry covering everything in the industrial, domestic, househeating, commercial, hotel restaurant and refrigeration lines, desires identification with public utility or manufacturer. 1050.

**Engineer** experienced (16 years) in the construction of water and coal gas plants and apparatus, including several years supervising installation and repair wet and dry holders, with largest gas plant company in U. S., last four years on valuation work. 1051.

Twelve years' gas utility experience as superintendent of distribution service and sales. Have produced results at low unit cost. Employed last three years in personnel work; not afraid of hard work or responsibility. Married, good health; (36). 1052.

Position desired with manufacturer of gas utilization equipment or sales department of gas company by one for many years employed as **salesman**, branch manager and chief executive by large manufacturing company distributing to the heating and plumbing trade. Fully experienced in developing and handling all phases. 1053.

**Refrigeration service mechanic**—with thorough practical experience and technical knowledge in the servicing and maintenance of domestic and commercial refrigeration units, also the supervision of installations. Substantial background in mechanics and field operations in relation to public utility work. Married. (37). 1054.

## POSITIONS OPEN

**Gas Engineer** with good educational background and operating experience in manufacture and natural gas for field and office work; good observer, analyst and report writer; will assist gas engineer important organization; age up to 30 years. State salary, include snapshot. 0310.

Established **sales engineers** to contact jobbers and dealers trade on gas boilers. Furnish sales experience and reference. 0311.



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